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& Engineering

Chat Usage in the Fleet: Warfighter Survey Results

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Acknowledgements



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- **Sponsored by the Office of Naval Research (ONR) Command 21 program**
- **Performed under contract with, and at the direction of the Space and Naval Warfare Systems Center, San Diego (SSC-SD)**



For more information on this effort or general project-related issues, please contact:



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Chat was heavily used during both OEF & OIF

- ◆ **Approximately 2500 users / 400 rooms during OIF**

Chat is a powerful C4I technology

- ◆ **Supports Distributed collaboration with both synchronous & asynchronous properties**
 - **May “converse” in near real time**
 - **Allows monitoring of multiple topics in different rooms on a time available basis**
- ◆ **Requires very low bandwidth**
- ◆ **Supports multiple users simultaneously**
- ◆ **Supports collaboration with coalition**
- ◆ **Essentially intuitive & Easy to use**

Scope of the Problem

The following issues may need to be addressed with KM tools:

- ◆ **No standardized automated logging of content**
- ◆ **Ad hoc business rules predominate**
- ◆ **No user authentication**
- ◆ **No search functionality**
- ◆ **No timestamps**
- ◆ **No filtering capability**
- ◆ **Etc....**

But, these needed to be validated ... and assessed in terms of warfighter requirements.

Commander, Carrier Group One (CCG-1) hosted survey on their website and invited fleet participation¹ (Approx. 40 questions, multiple choice and open-ended)

- **User profile**
- **Usage patterns**
- **Problems and successes**
- **Needed functionality**



183 responses (as of 21 May, 03)

¹ On 9 May, '03, CCG-1 sent a link to multiple battlegroups directing them to a web-based chat survey hosted on CCG-1's web site.

Respondent Demographics

Commands:

- Afloat Staffs = 18%
- Carriers = 38%
- Cruisers & Destroyers = 39%
- Support Ships & Activities = 3%
- No answer = 2%

Codes/Divisions:

- Operations = 56%
- Weapons = 18%
- Intel = 7%
- C4I = 4%
- Other = 7%
(includes Engineering,
JAG, Training, and
Supply/Logistics)
- No answer = 9%

Ranks & Rate:

- Jr. Enlisted (E2 - E5) = 31%
- Sr. Enlisted (E6 - E9) = 28%
- Jr. Officer (CWO, O1 - O4) = 34%
- Sr. Officer (O5 & O6) = 3%
- No answer = 3%

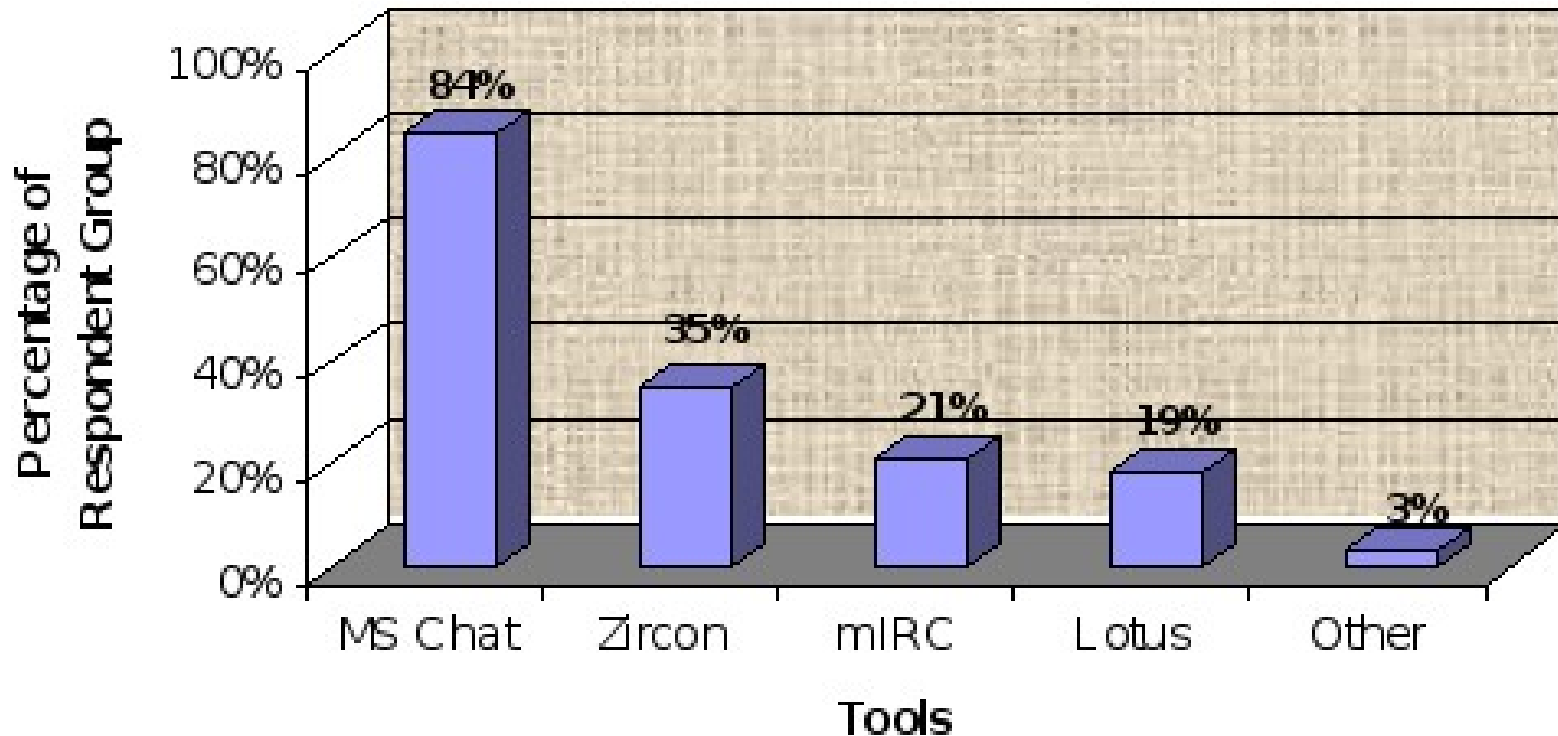
Starting date of most recent deployment:

Ranged from November
2001
to April 2003



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Chat Tools used on Deployment



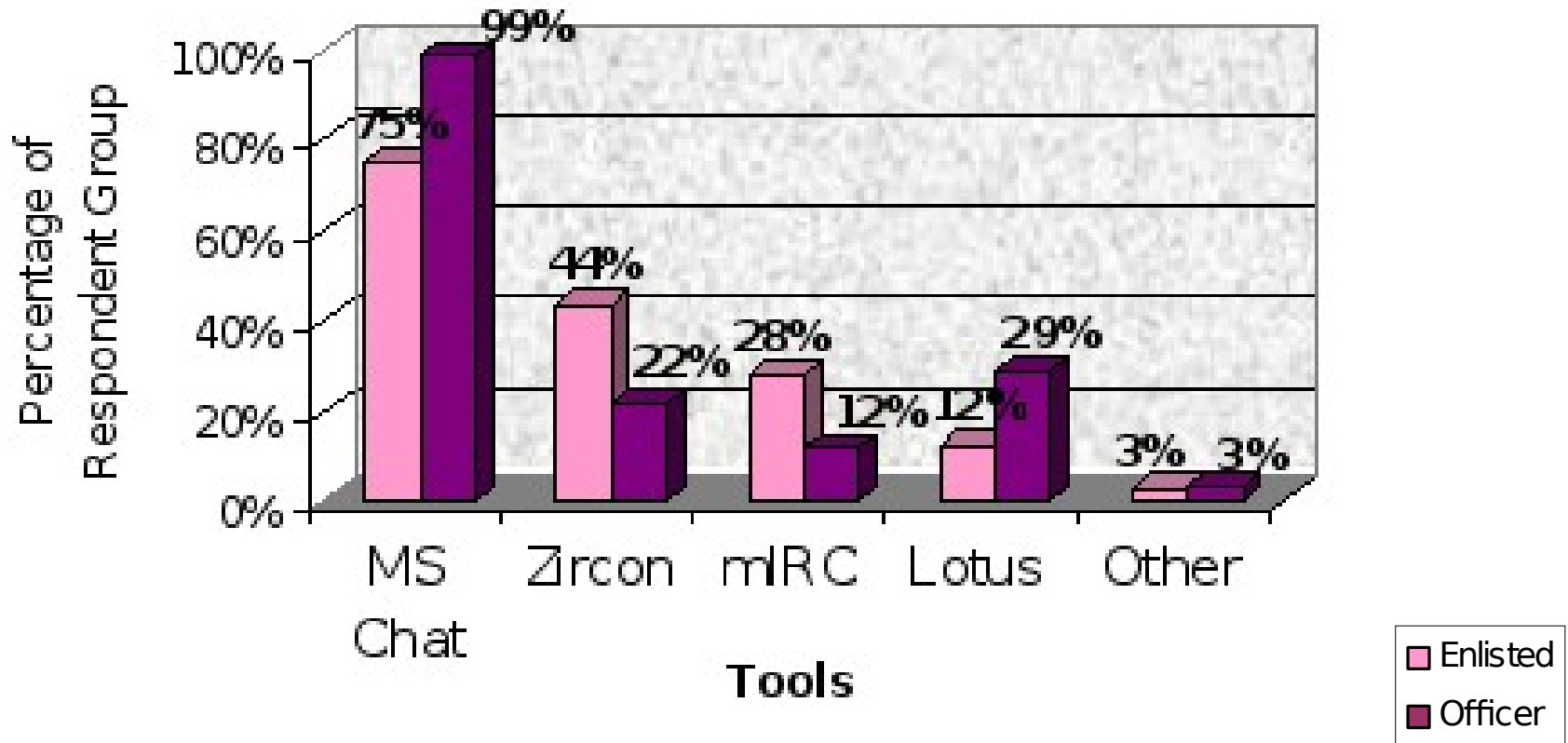
Summed percentages exceed 100% because 44% of respondents used more than one tool.



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Chat Tools used on Deployment

(2 of 4) Comparison: Enlisted - Officer



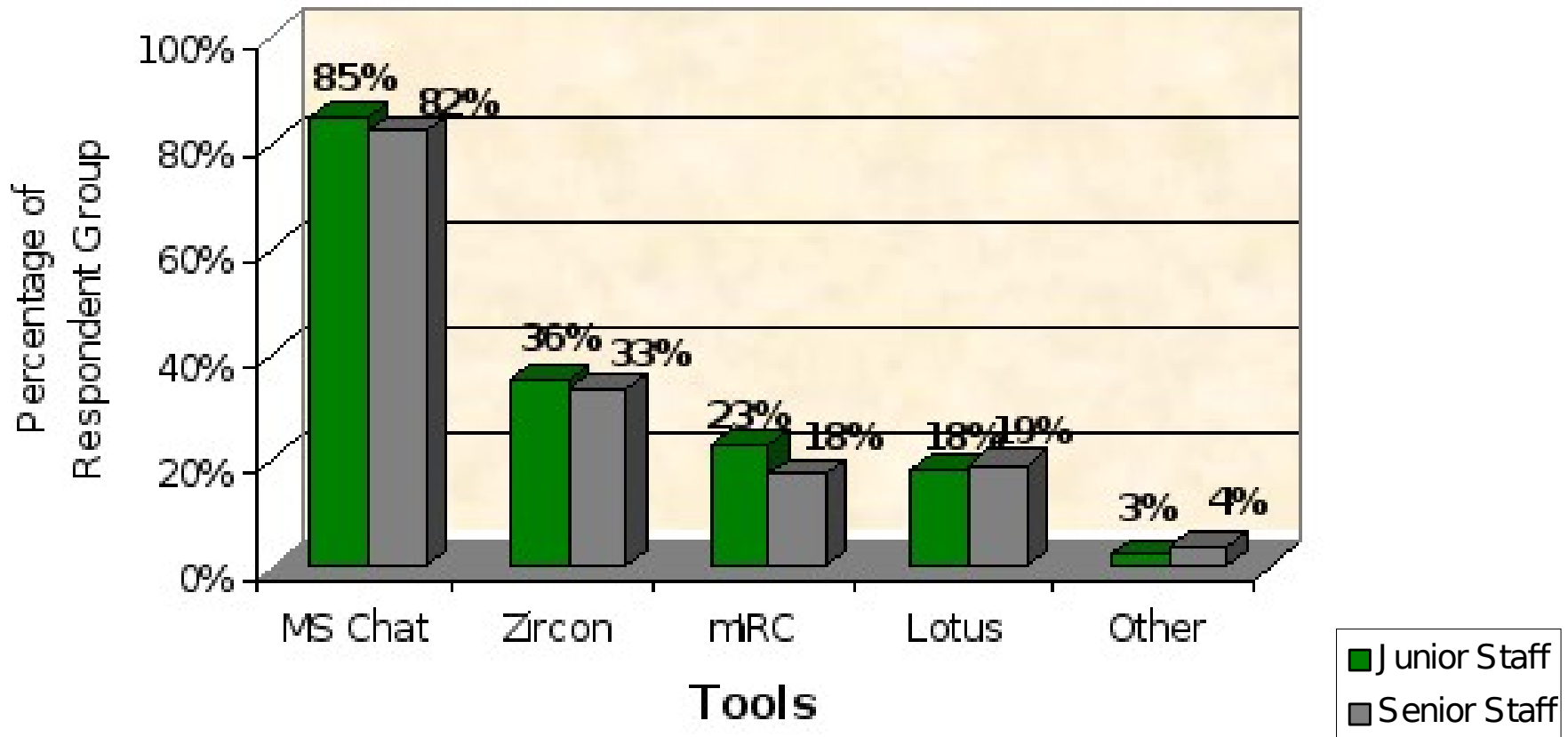
Note: Respondents could choose multiple types of tools



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Chat Tools used on Deployment

(3 of 4) Comparison: Junior Staff - Senior Staff*



Note: Respondents could choose multiple tools.

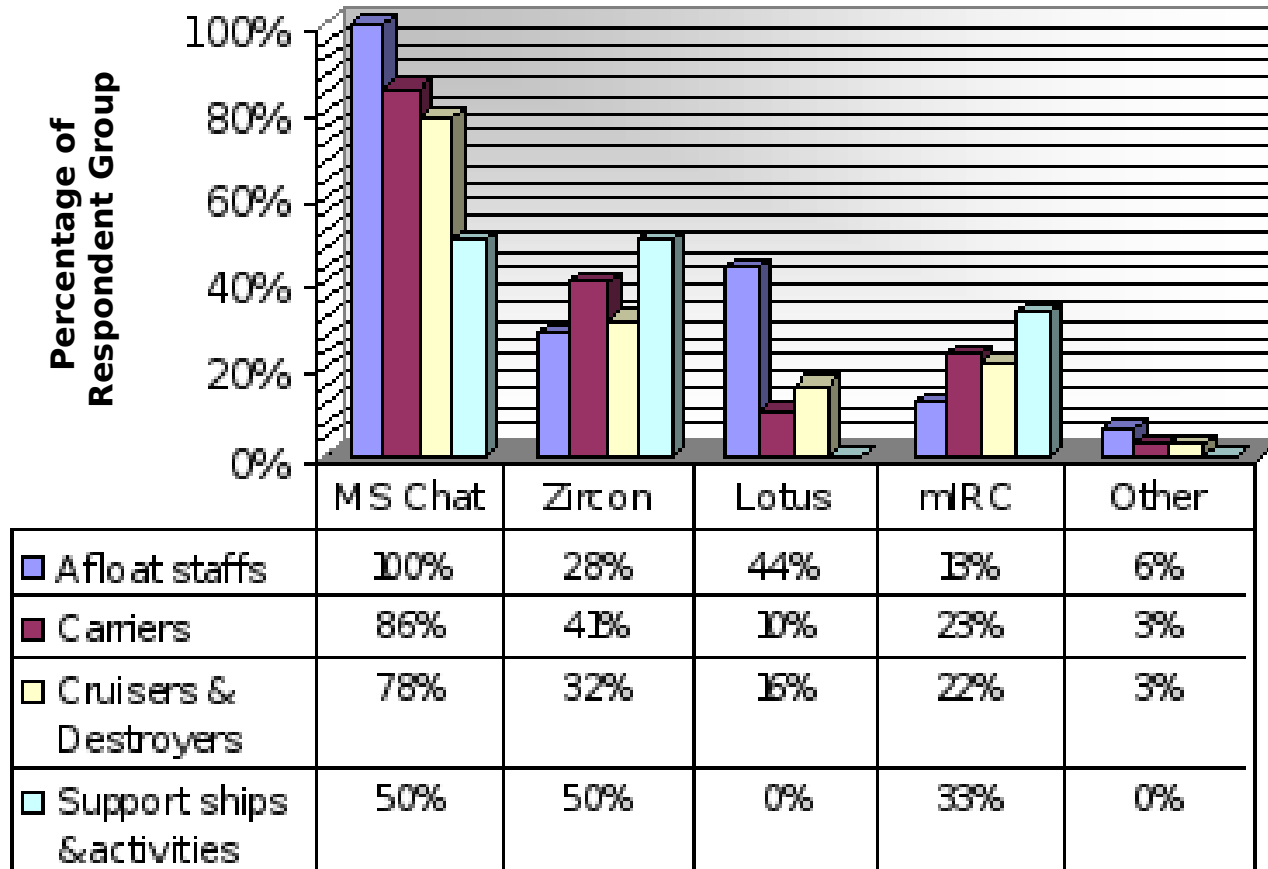
*Junior Staff = E2, E5, CWO, & O1 - O4
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Chat Tools used on Deployment

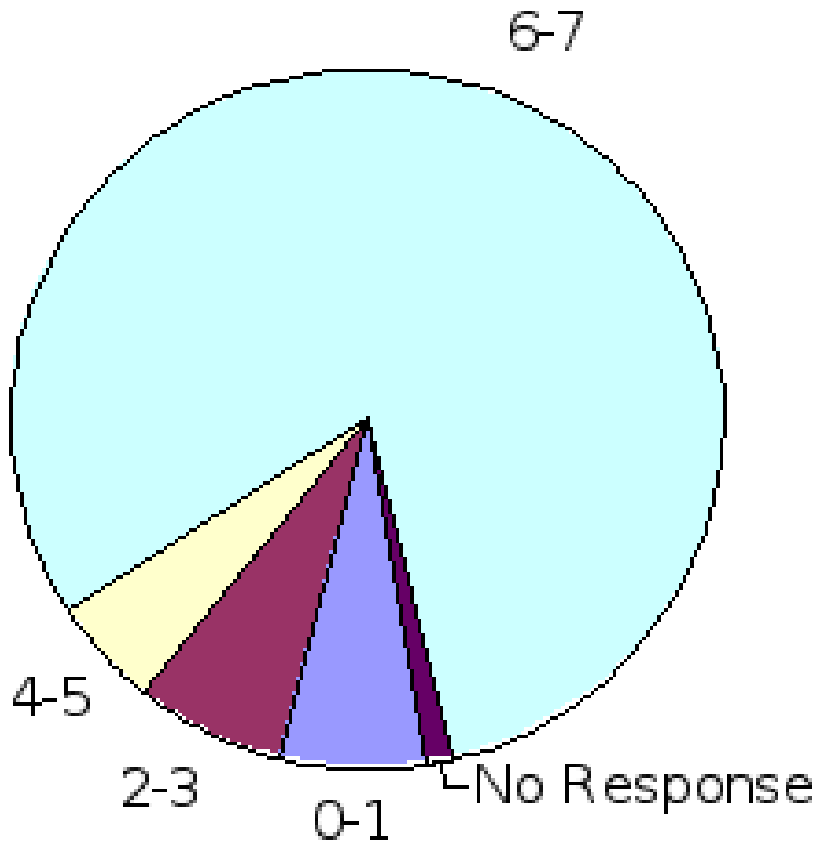
(4 of 4) Comparison: Command Groups



Note: Respondents could choose multiple tools.
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Days per week Respondents log into Chat (1 of 3)

80% of respondents log into Chat 6-7 days per week



5% -- 4-5 days per week

7% -- 0-1 or 2-3 days per week

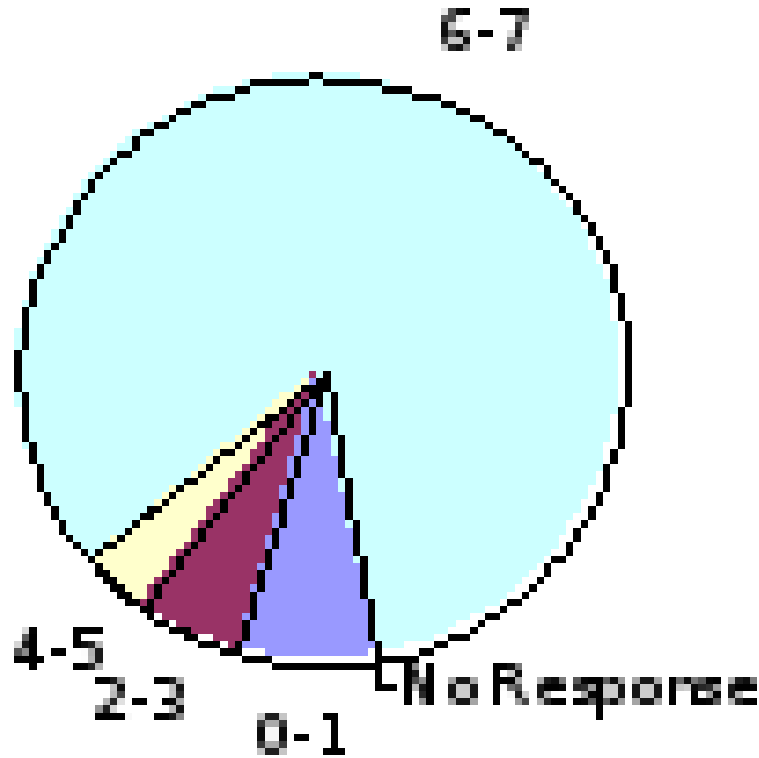
1% -- No Response



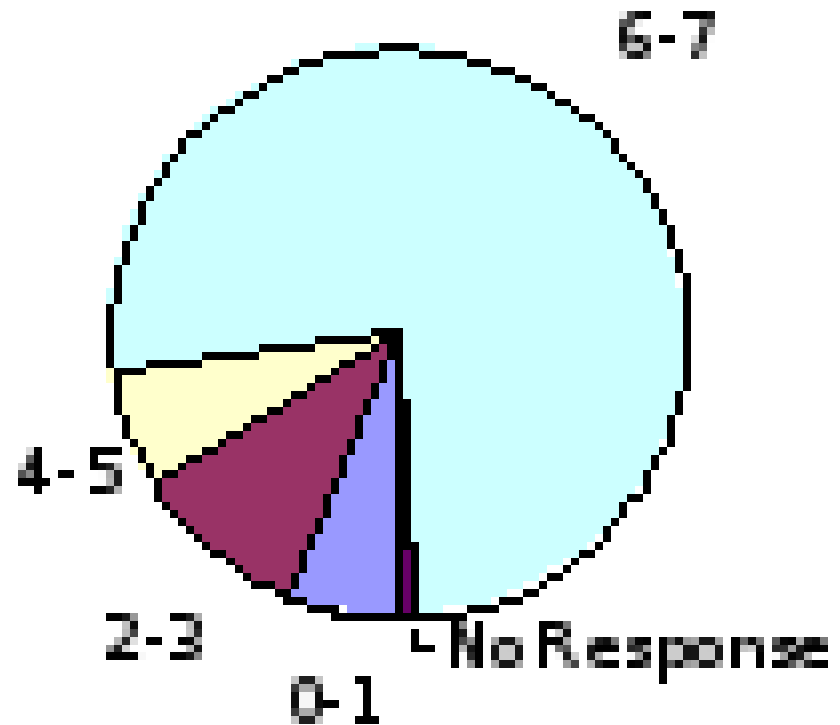
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Days per week Respondents

Comparison: Enlisted - Officer



Enliste
d



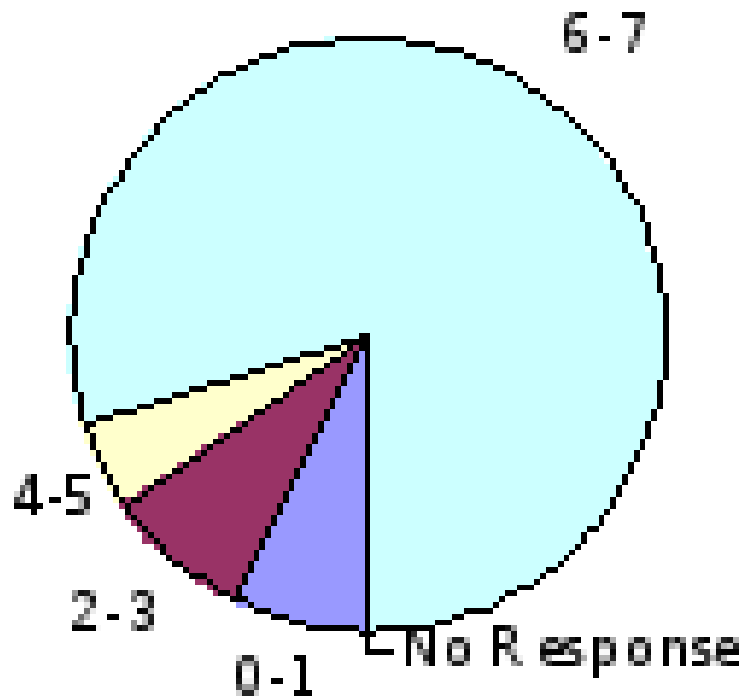
Officer



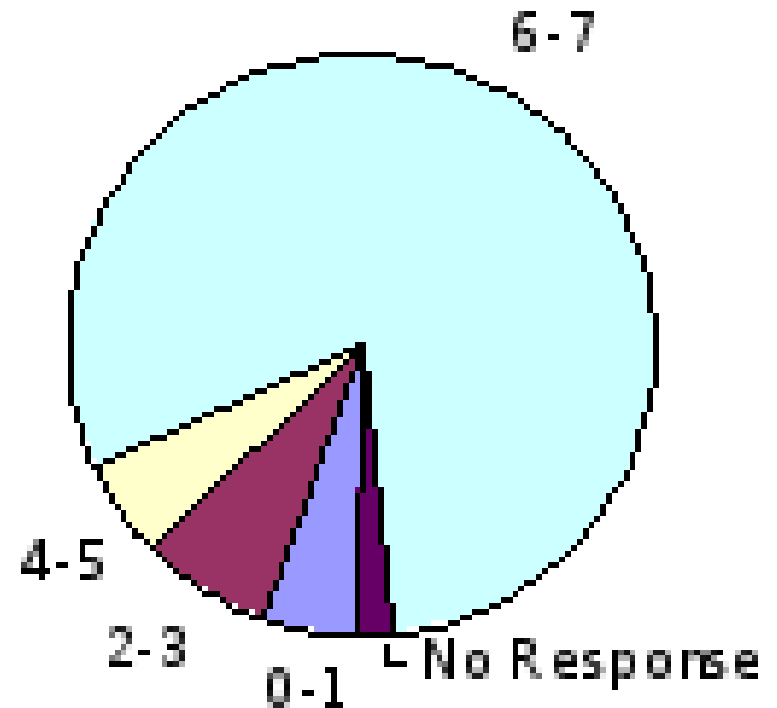
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Days per week Respondents

Comparison: Junior Staff - Senior Staff



Junior



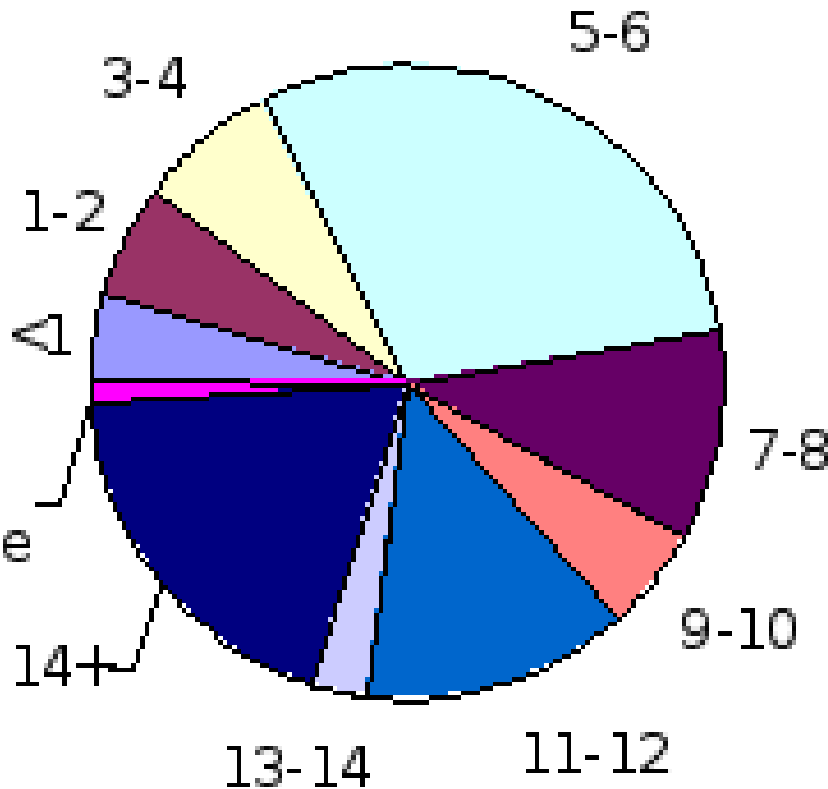
Senior



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Hours per day Respondents log into Chat (1 of 3)

30% of respondents log into Chat 5-6 hours per day



19% -- 14+ hours per day

3% -- 13-14 hours per day

14% -- 11-12 hours per day

5% -- 9-10 hours per day

19% -- 7-8 hours per day

7% -- 3-4 hours per day

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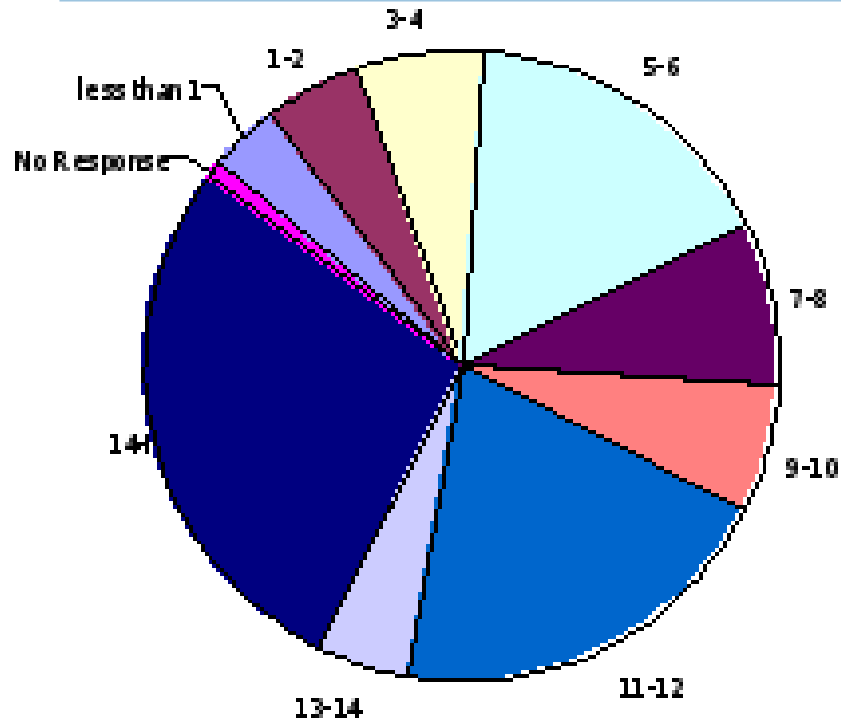


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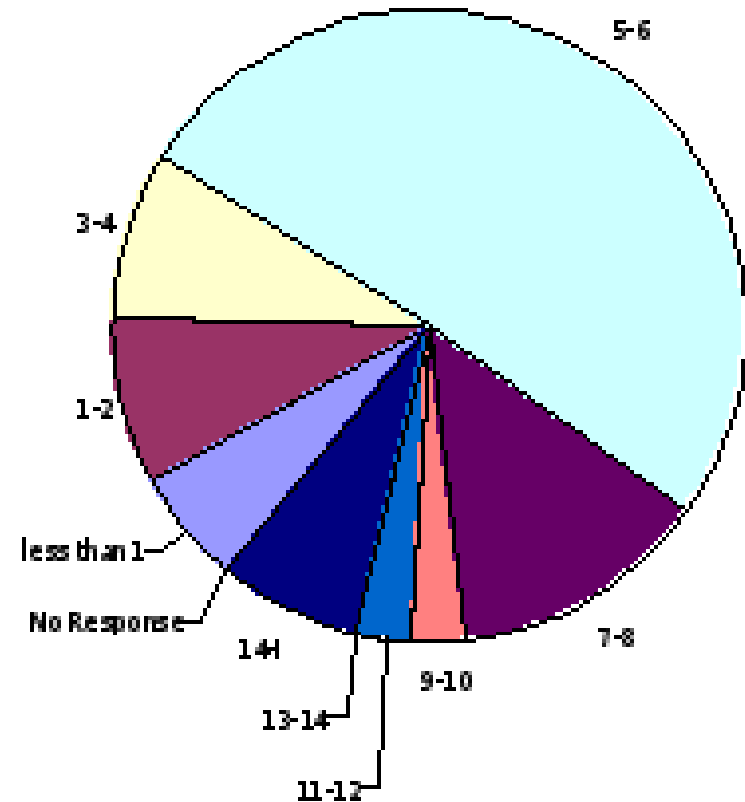
Hours per day Respondents



Comparison: Enlisted - (Officer)



Enlisted



Officer

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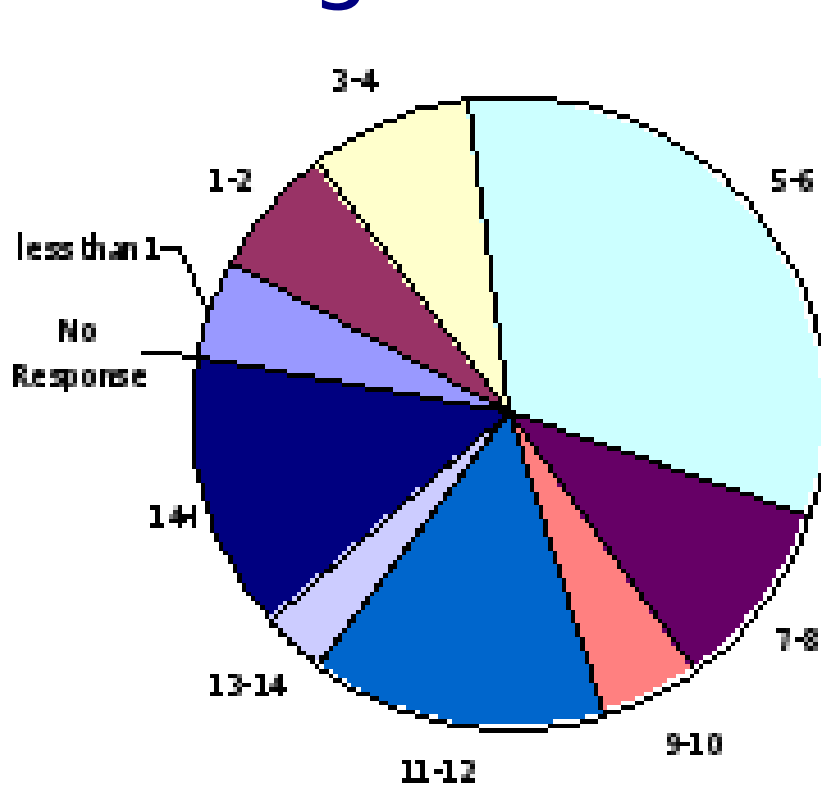


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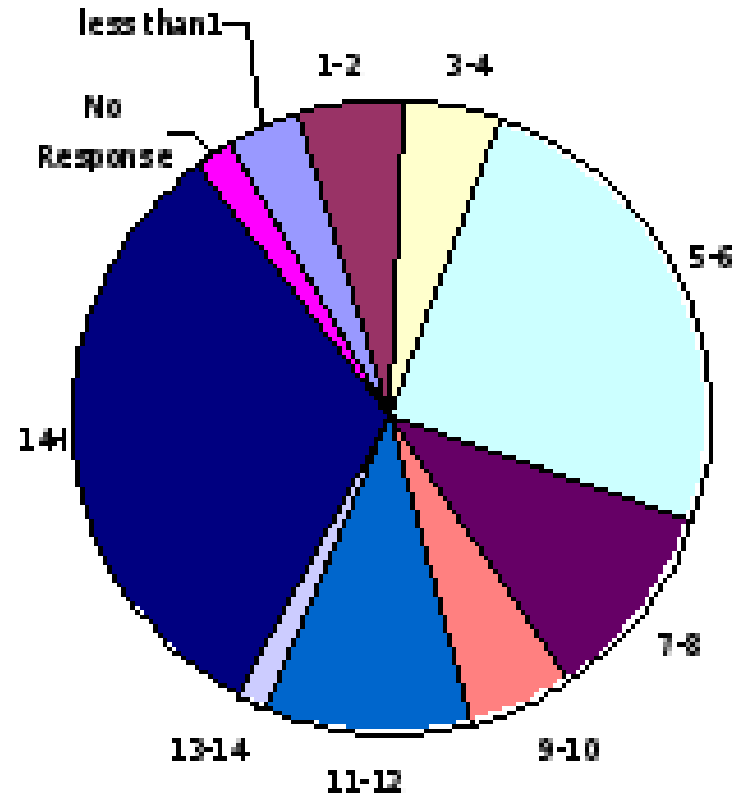
Hours per day Respondents



Comparison: Junior Staff - Senior Staff



Junior



Senior



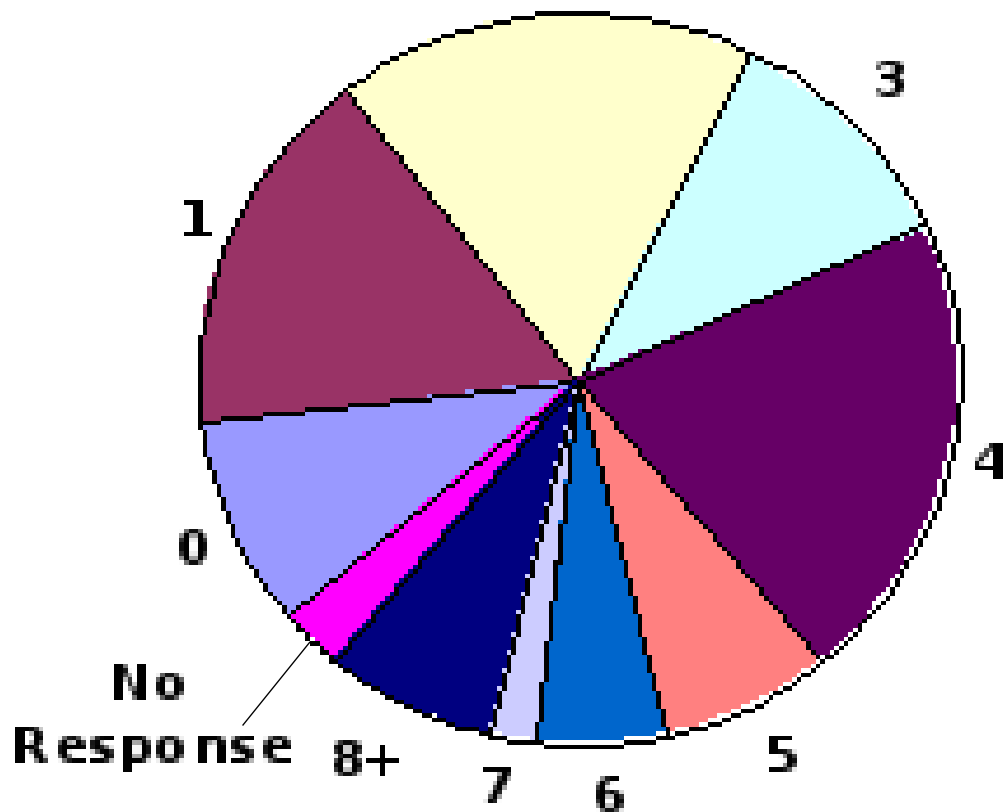
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Number of Chats monitored only...



(observing without participating)

65% of respondents typically monitor 1, 2, 3, or 4 Chat sessions



9% -- monitor 0 sessions

23% -- monitor 5 or more

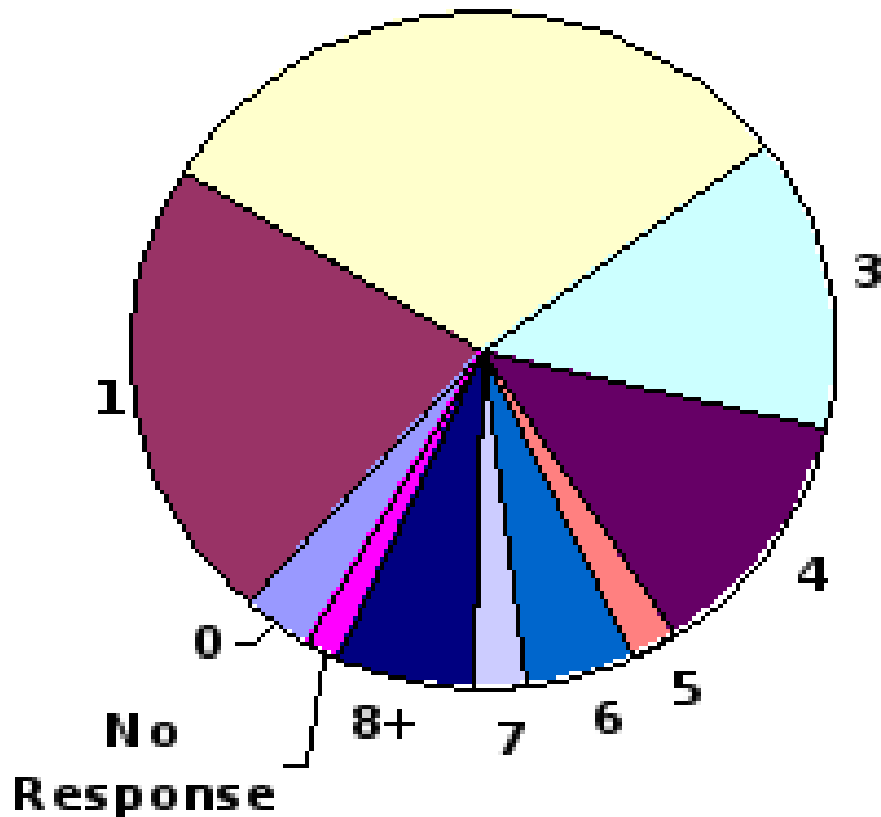


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...While simultaneously participating in other

sessions

79% of respondents typically participate in 1, 2, 3, or 4 Chat sessions



3% -- participate in 0 sessions

16% -- participate in 5 or more

The mean number of sessions simultaneously monitored + participated = 6.

• The mean number of 6 applies also to:

- Officer and Enlisted groups
- Jr. Staff and Sr. Staff groups

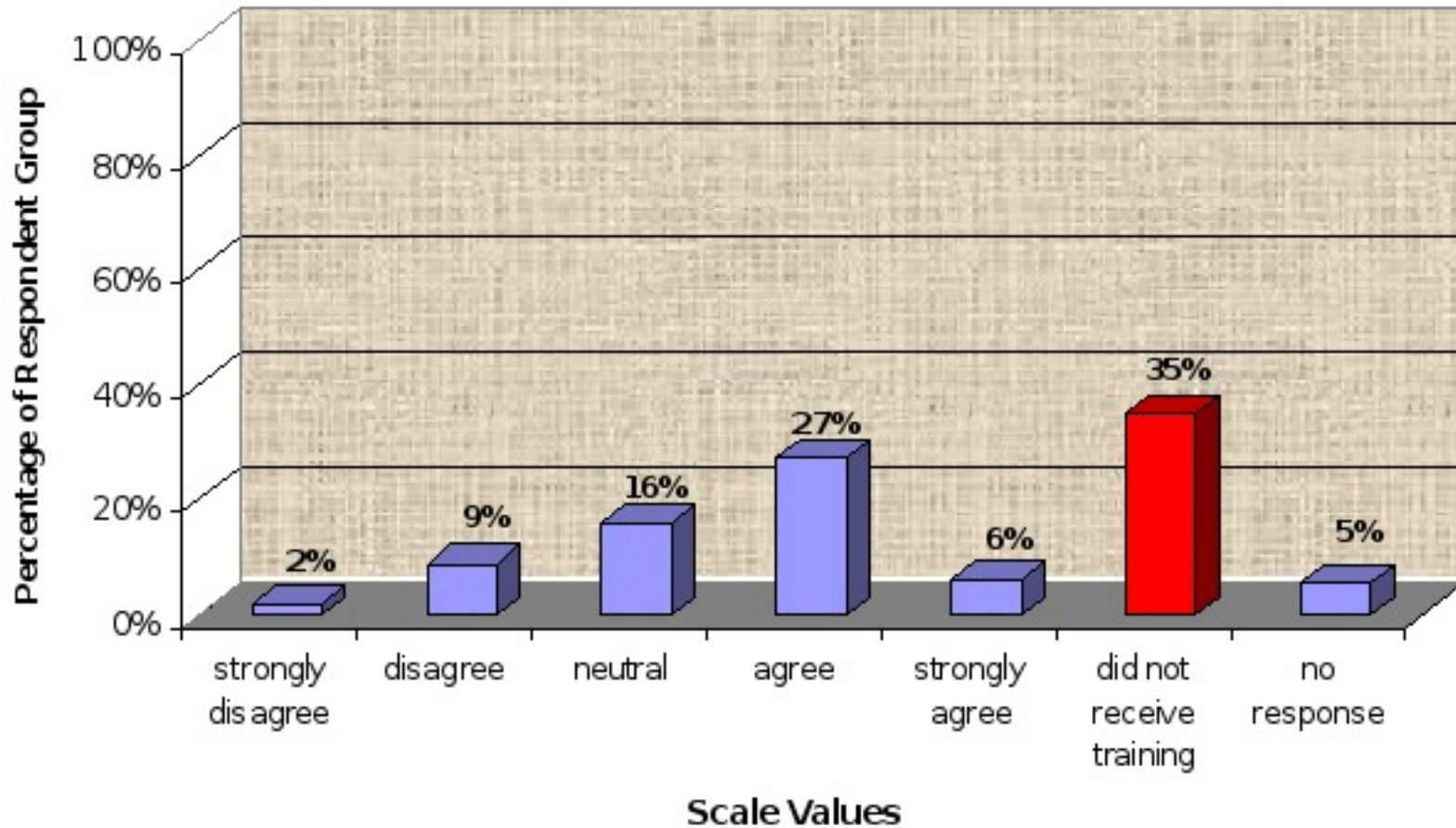
The maximum number was 16



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Training

"The chat training I received was adequate"



% who did not receive training:

- Officers = 39%
- Enlisted = 33%
- Jr. Staff = 38%
- Sr. Staff =



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Different Chat rooms visited (1 of 4)



Respondents reported that they logged into between 1 and 30+ different chat rooms during their most recent deployment.

Median range of different chat rooms visited: 6-10.

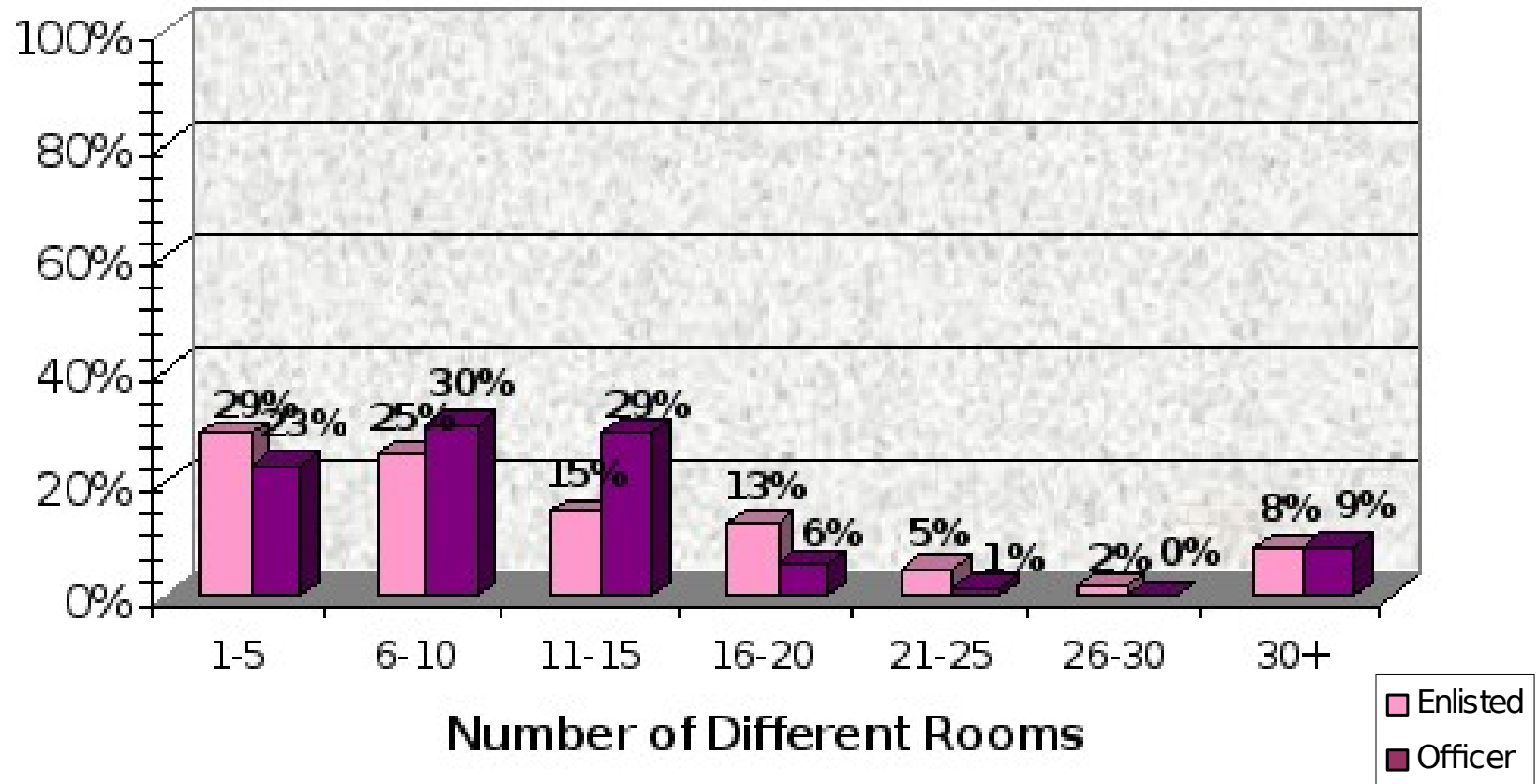


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Different Chat rooms visited



Comparison: Enlisted - Officer



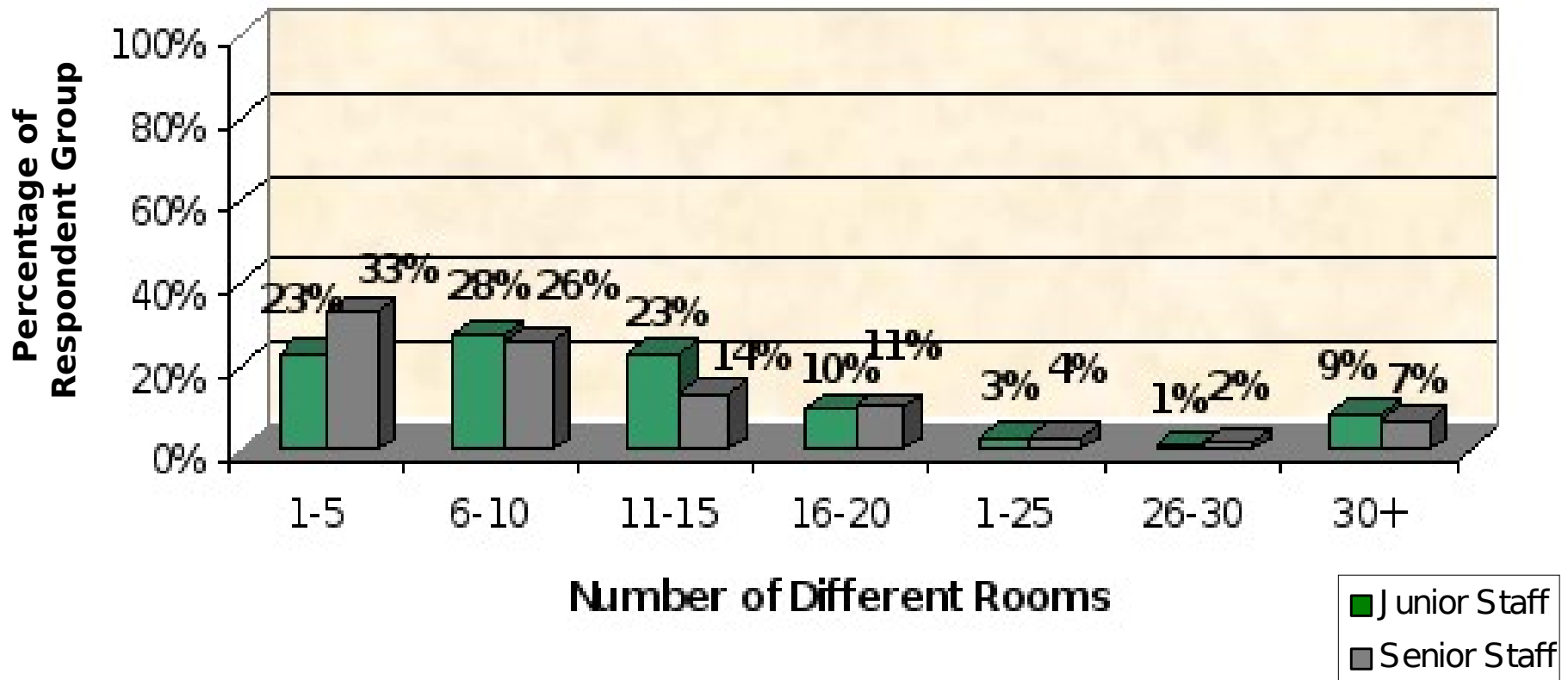
Number of Different Rooms



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Different Chat rooms visited

Comparison: Junior Staff - Senior Staff (3 of 4)



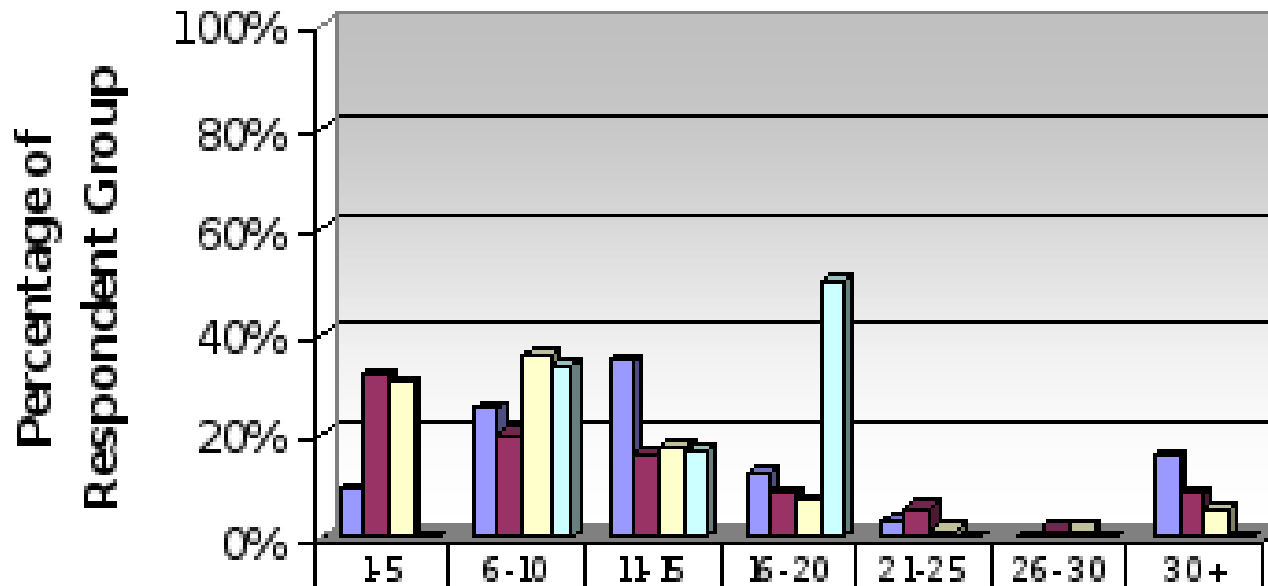


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Different Chat rooms visited (4 of 4)



Comparison: Command Groups



Afloat staffs	9%	25%	34%	13%	3%	0%	16%
Carriers	32%	20%	16%	9%	6%	1%	9%
Cruisers & Destroyers	30%	36%	18%	7%	1%	1%	5%
Support ships & activities	0%	33%	17%	50%	0%	0%	0%

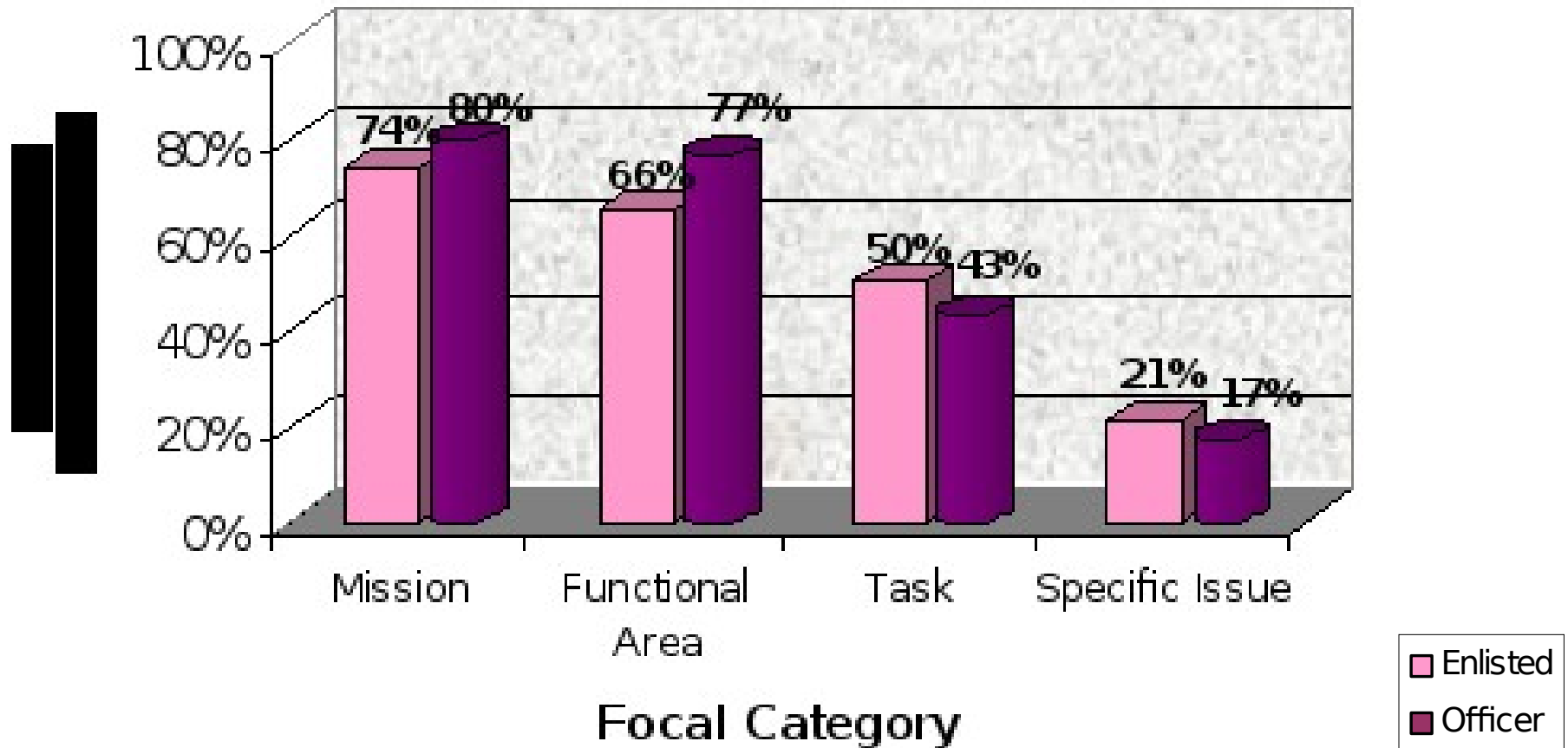
Number of Different Rooms
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Focus of Sessions

Comparison: Enlisted - Officer

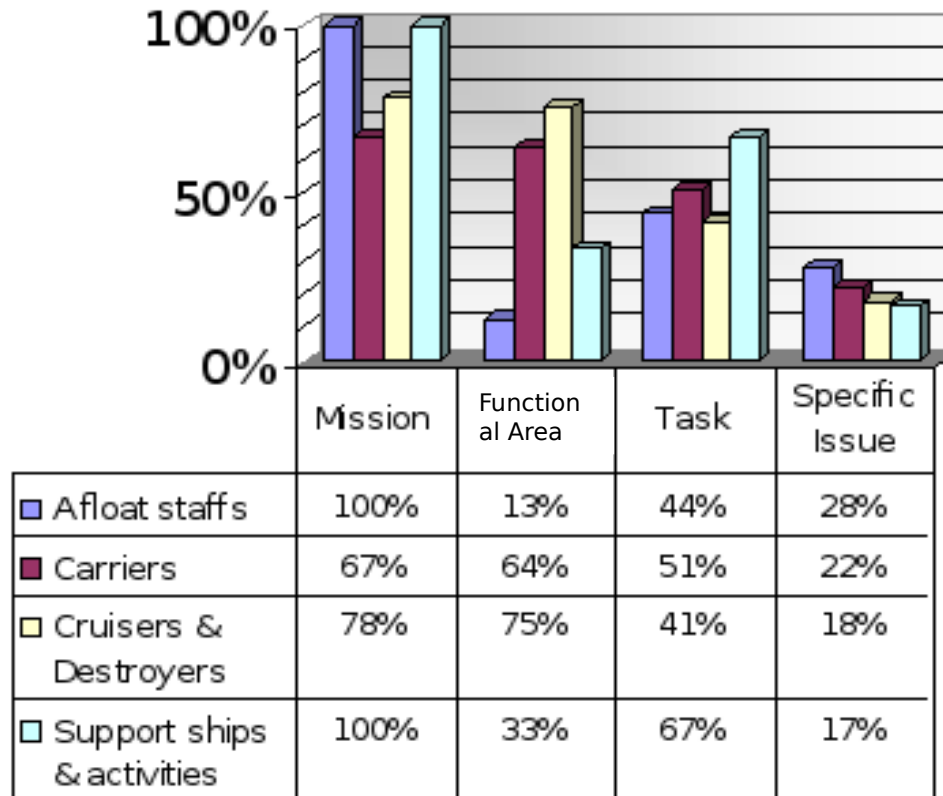


Note: Respondents could choose multiple focal categories

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Focus of Sessions (1 of 3)

Comparison: Command Groups



Note: Respondents could choose multiple focal categories

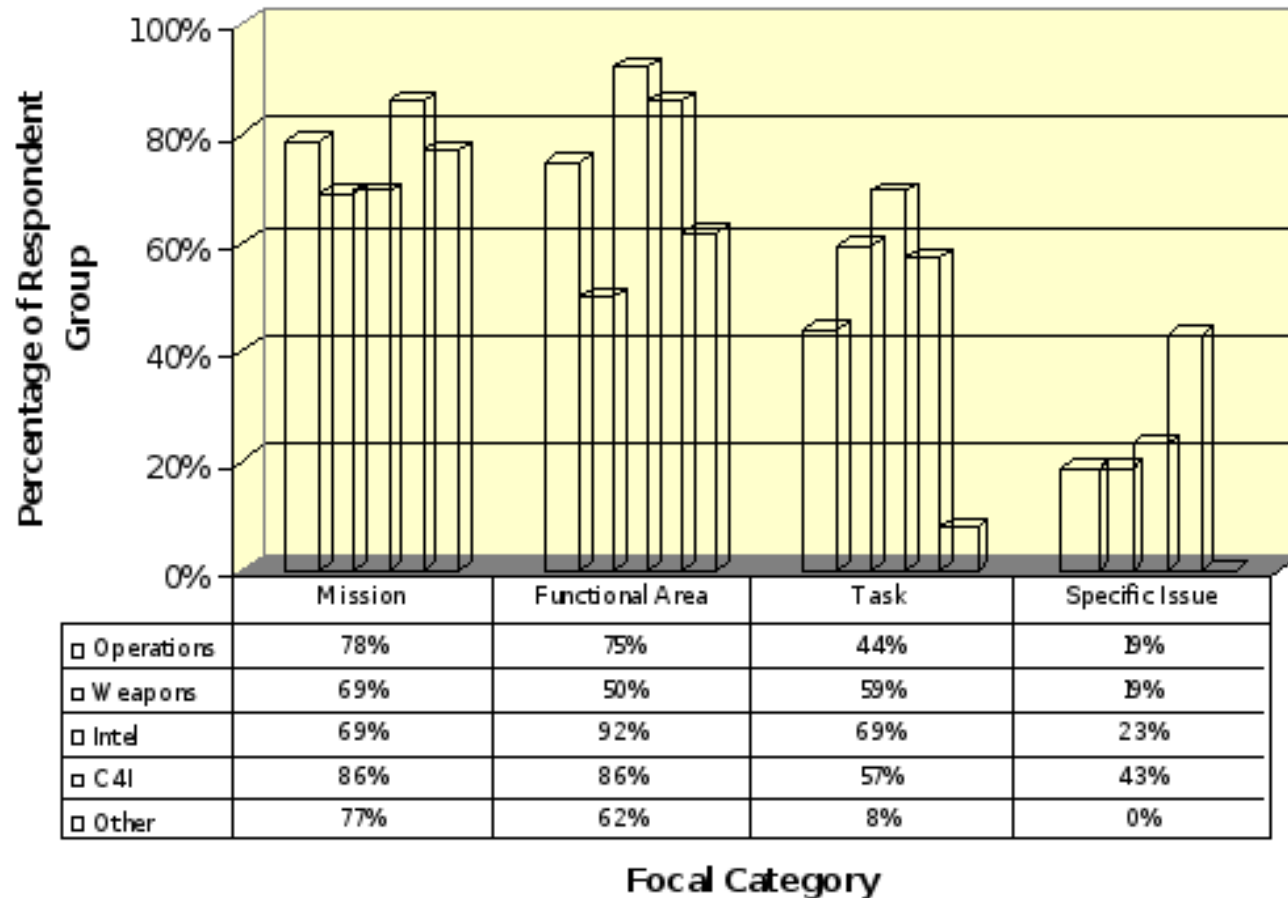
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Focus of Sessions (2 of 3)

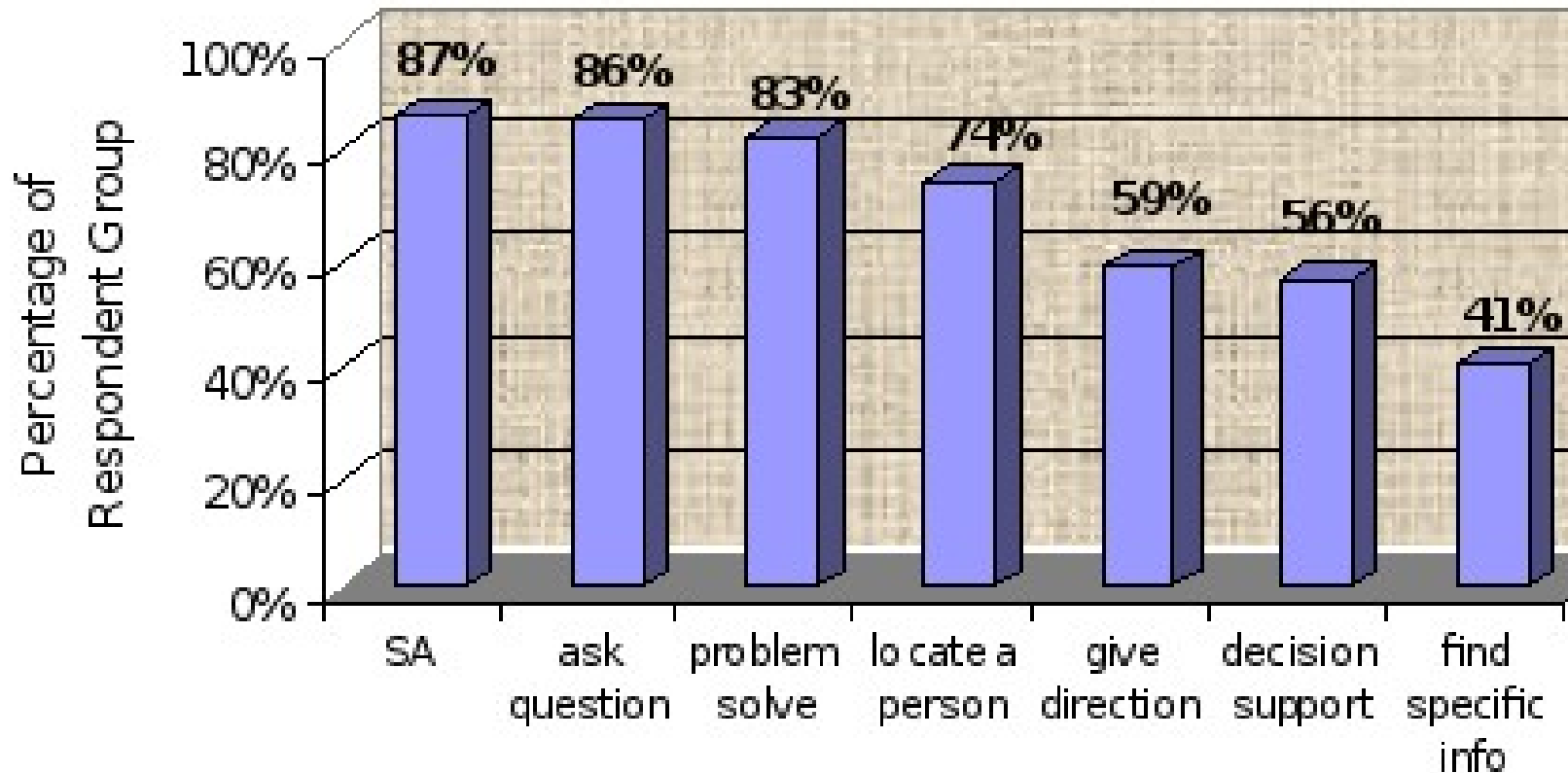
Comparison: Codes/Divisions



Note: Respondents could choose multiple focal categories

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Purpose for using Chat (1 of 4)



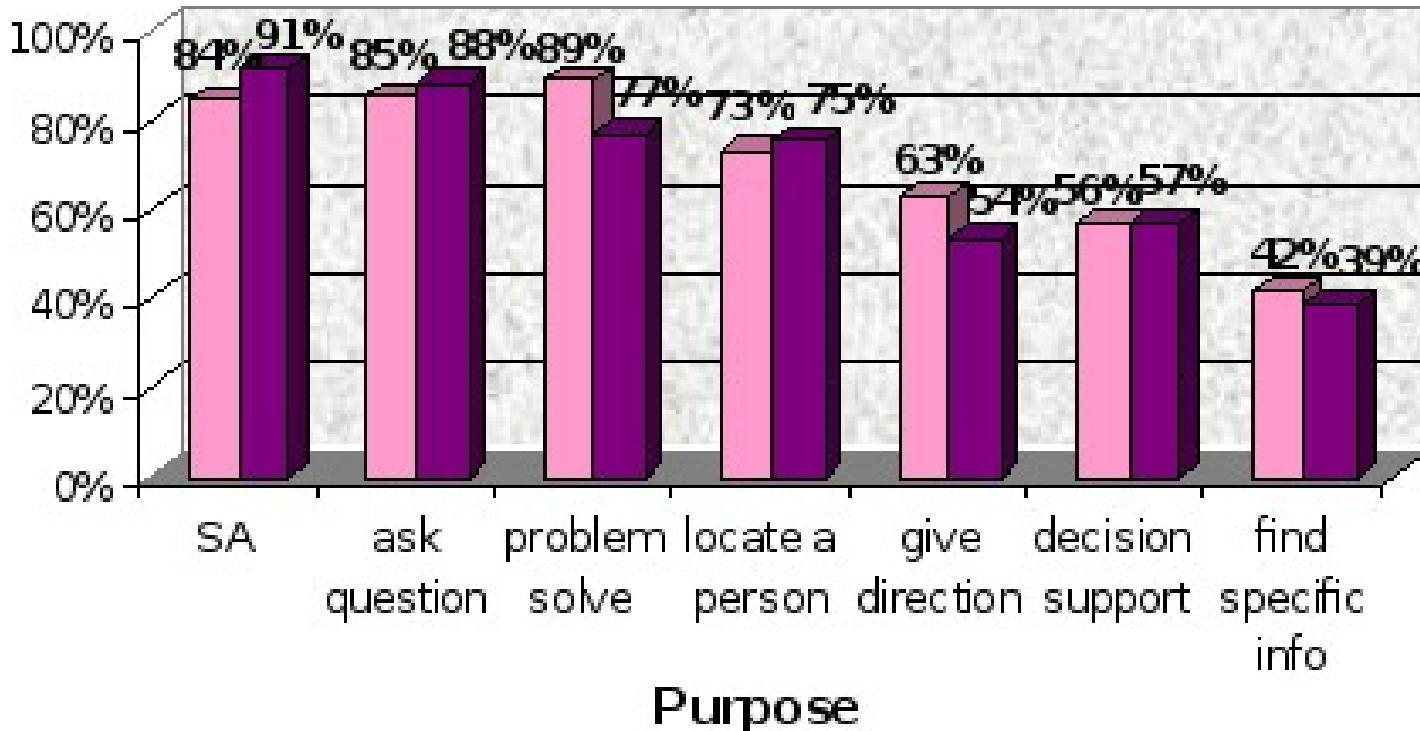
Summed percentages exceed 100% because 93% of respondents indicated multiple reasons for using chat.



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Purpose for using Chat (2 of 4)

Comparison: Enlisted - Officer



Note: Respondents could choose multiple purposes.

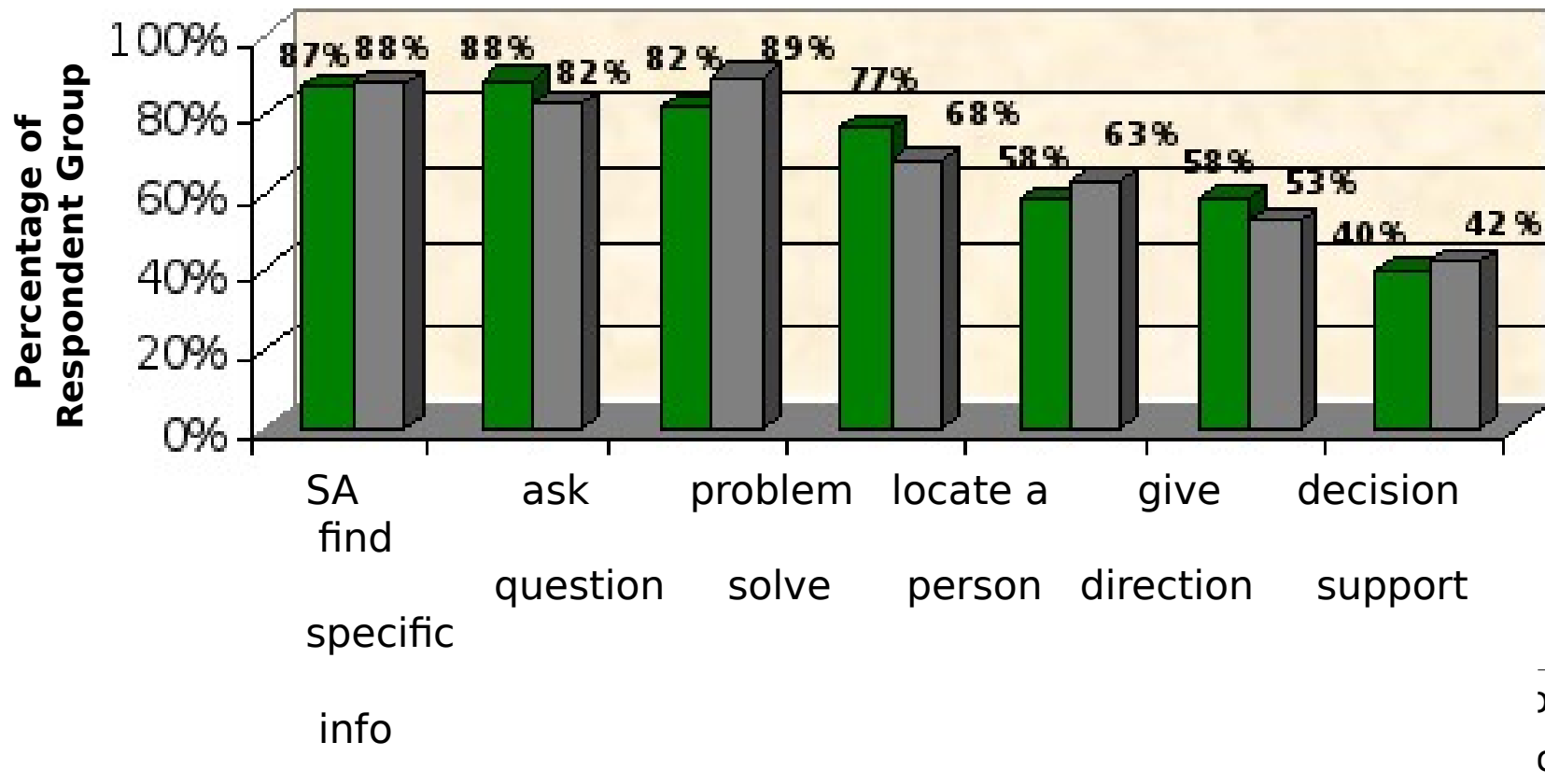




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Purpose for using Chat (3 of 4)

Comparison: Junior Staff - Senior Staff



Note: Respondents could choose multiple purposes.

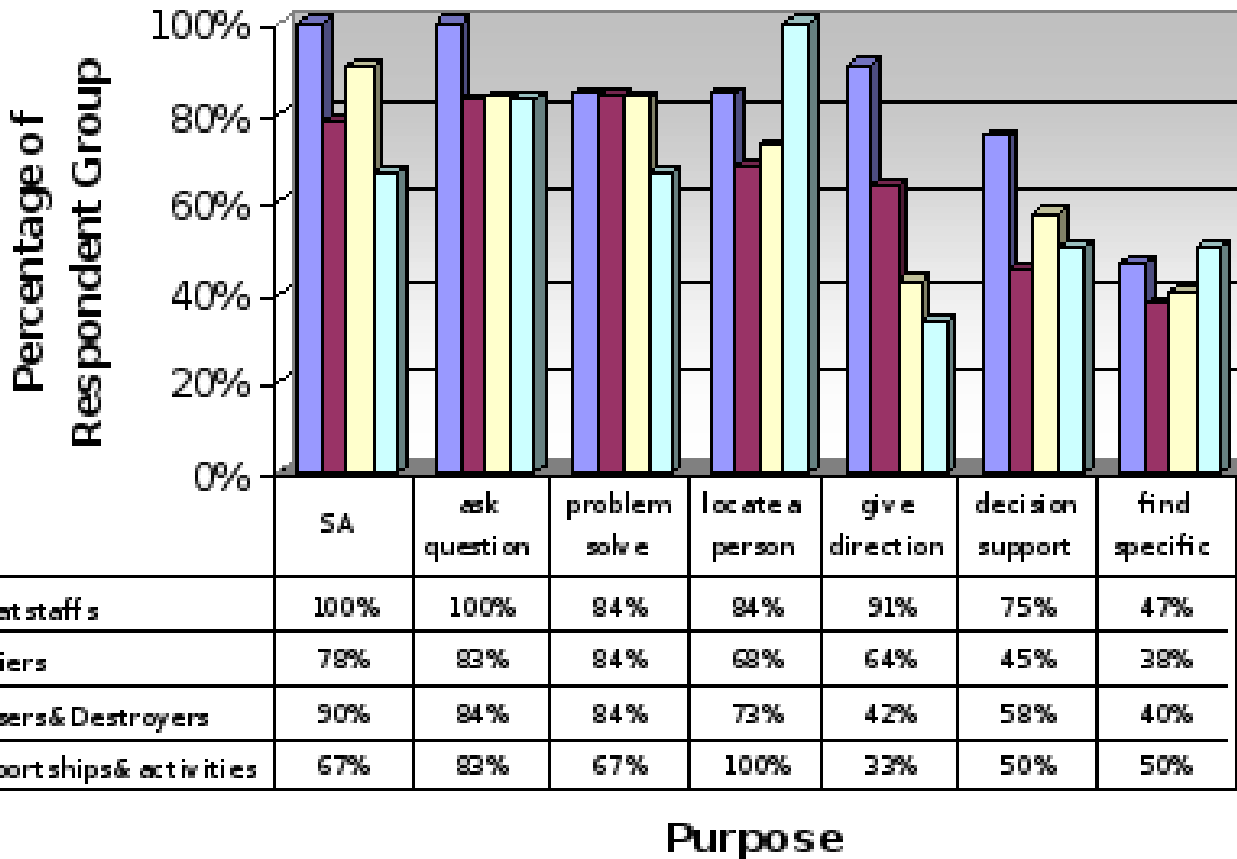
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Purpose for using Chat (4 of 4)

Comparison: Command Groups

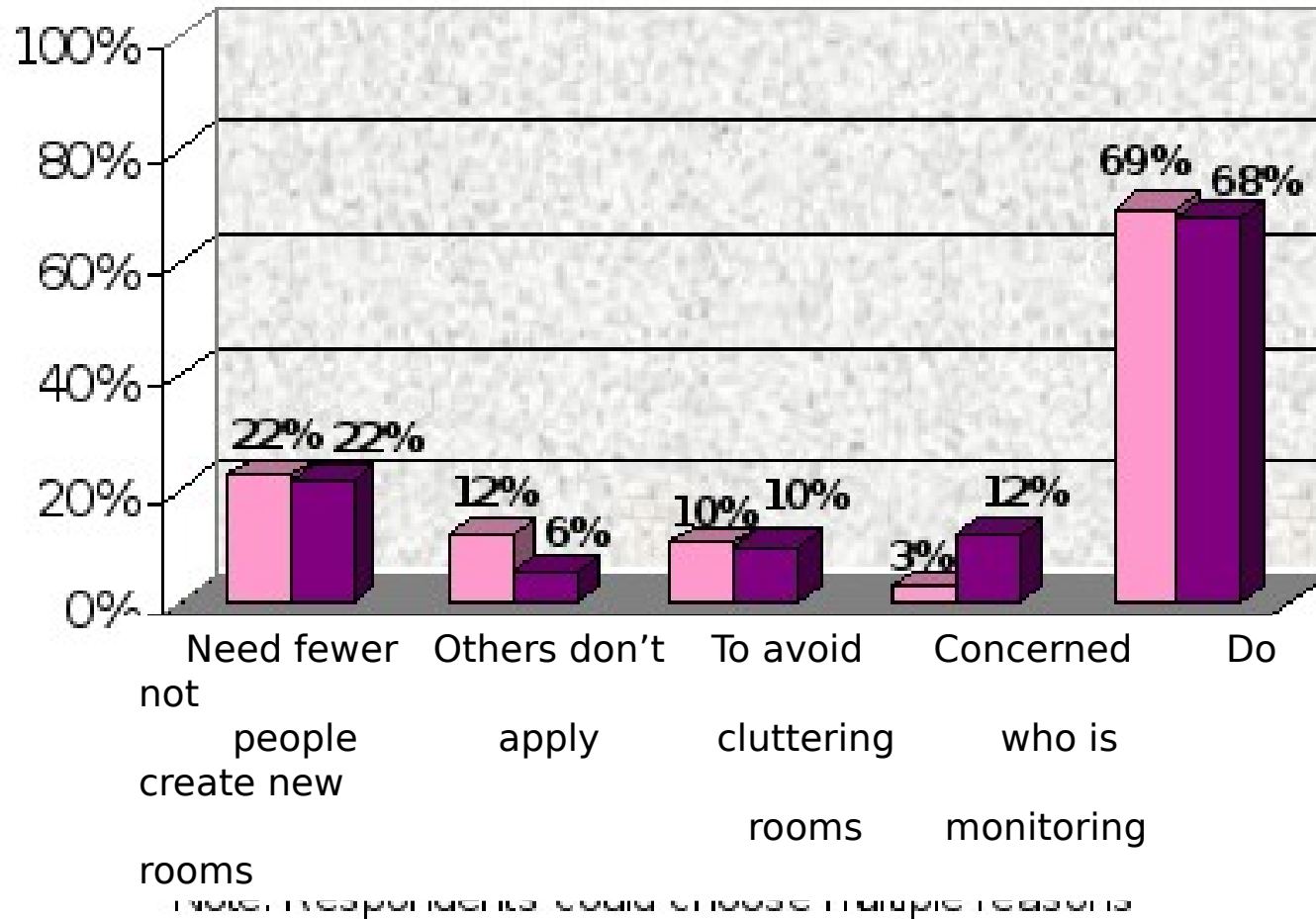


Note: Respondents could choose multiple purposes.

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Reasons for creating new Chat rooms

Comparison: Enlisted - Officer



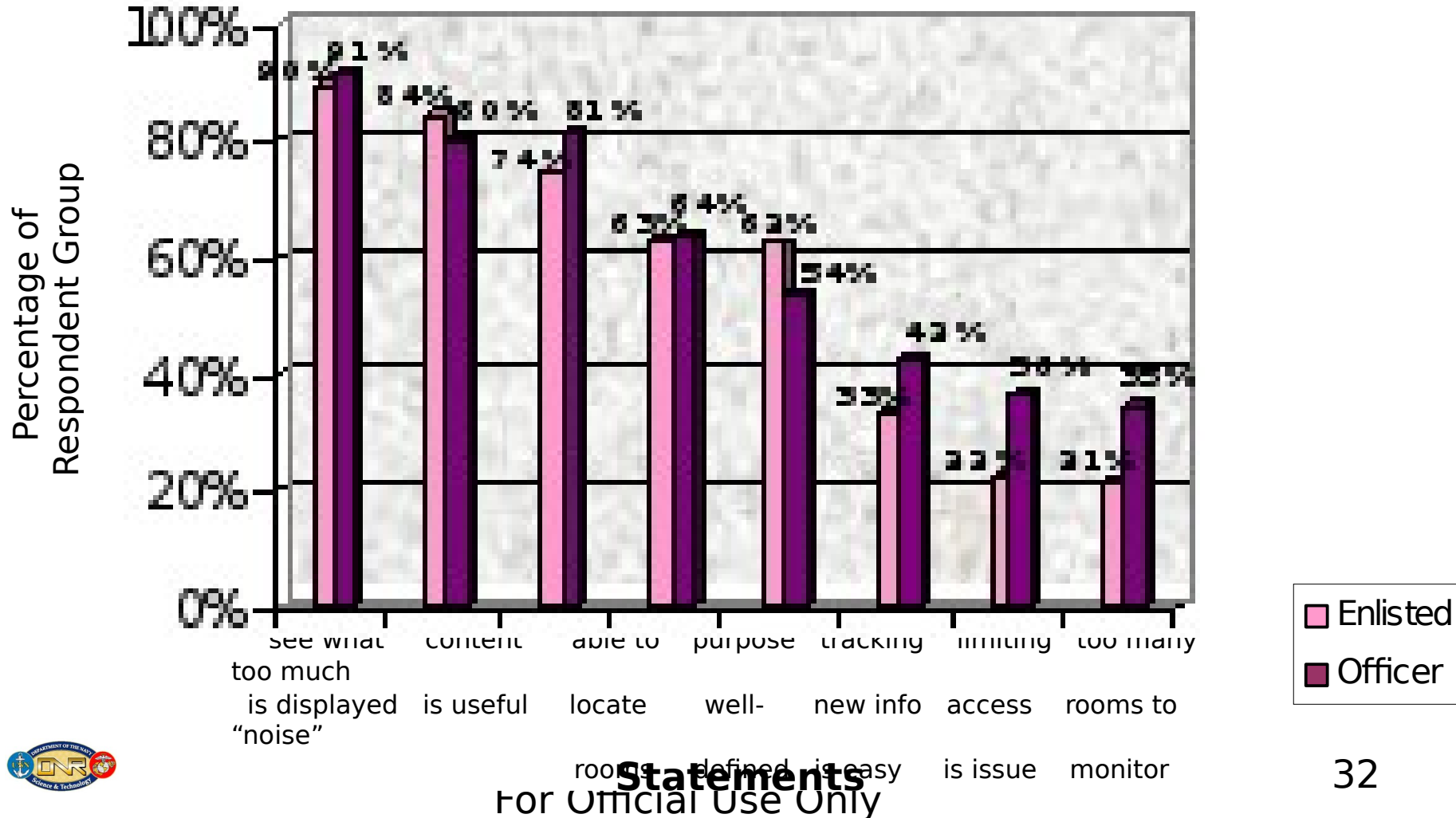


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Agreement with statements about Chat use (1 of 3)



Comparison: Enlisted - Officer

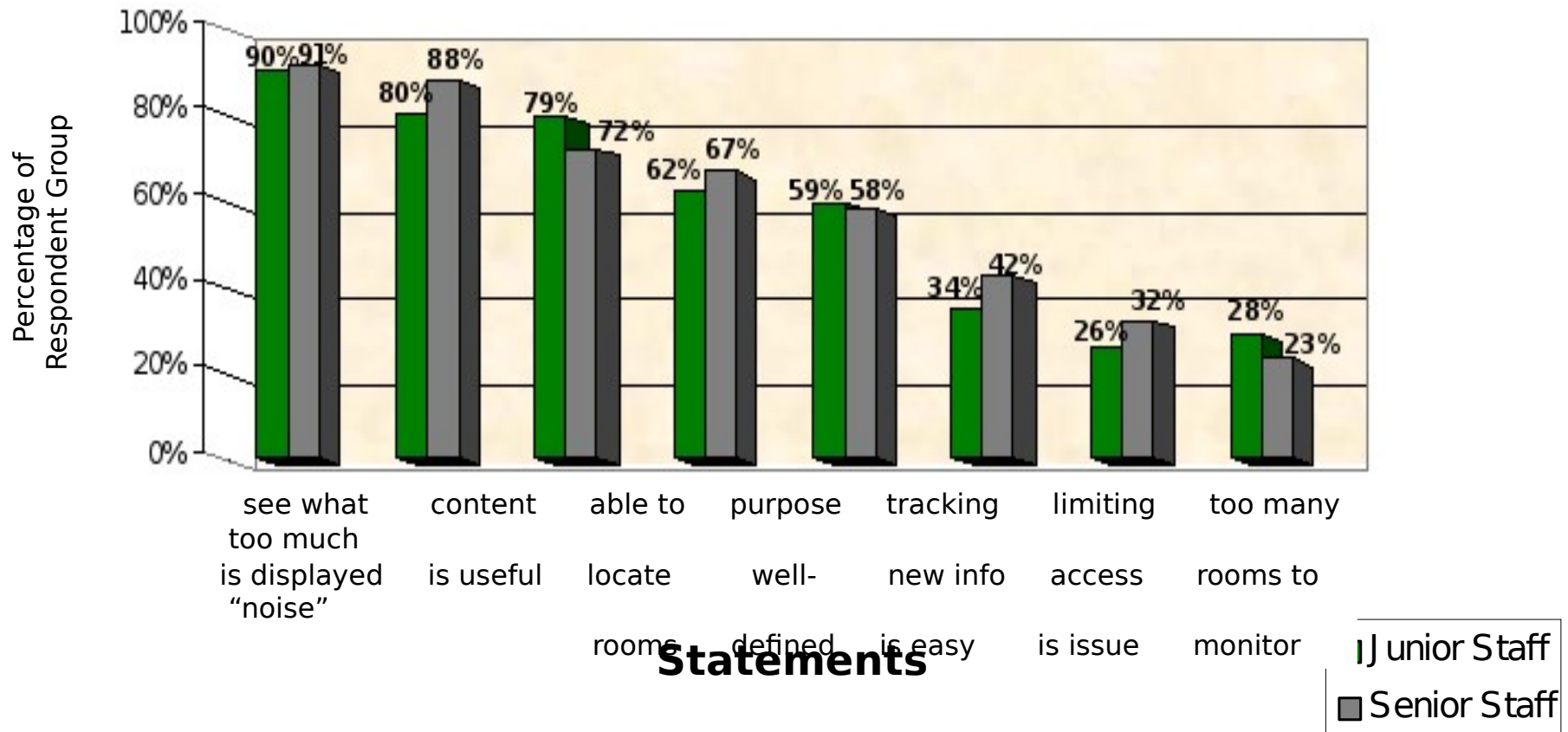




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Agreement with statements about Chat use

(2 of 3) Comparison: Junior Staff - Senior Staff

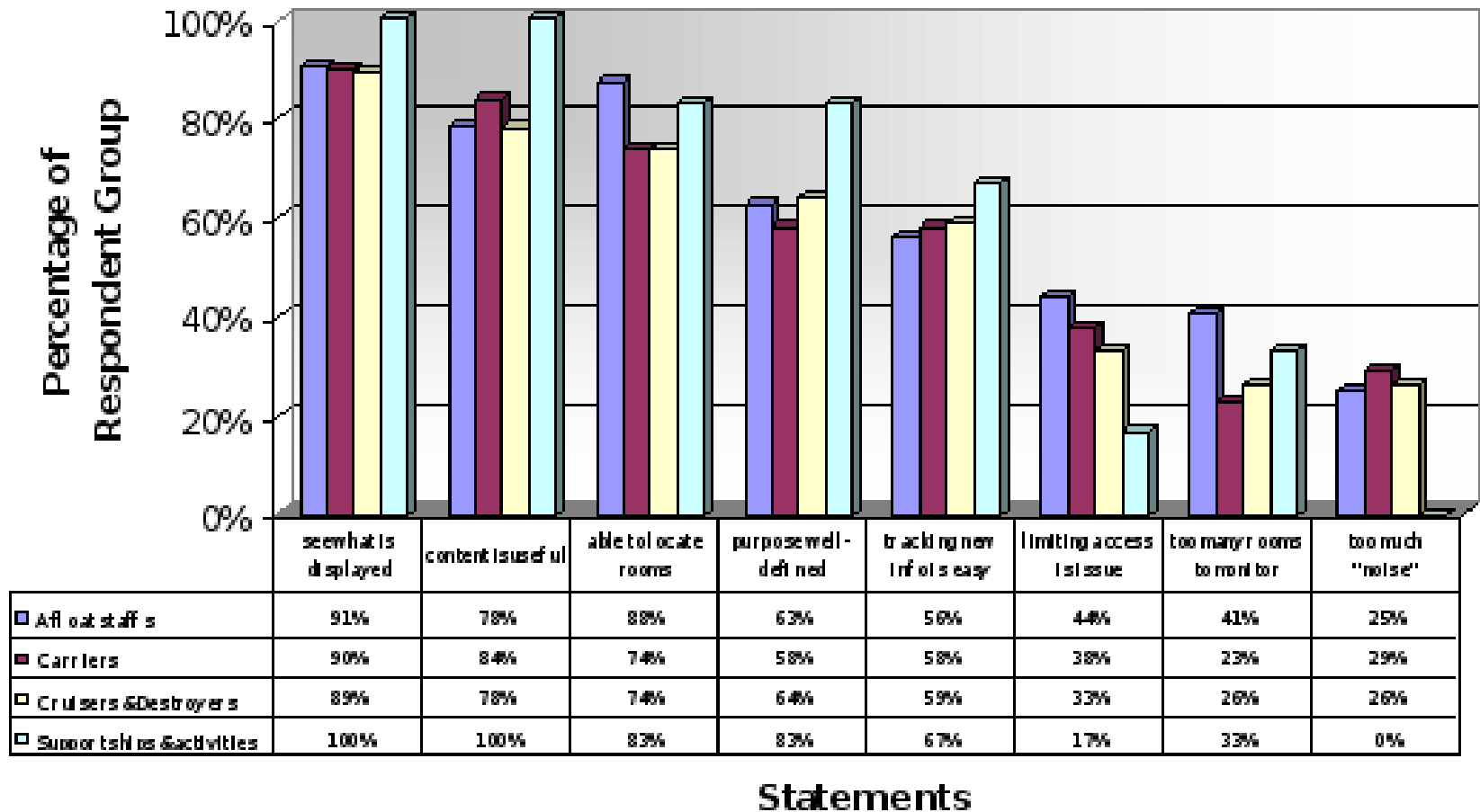




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Agreement with statements about Chat use (3 of 3)

Comparison: Command Groups

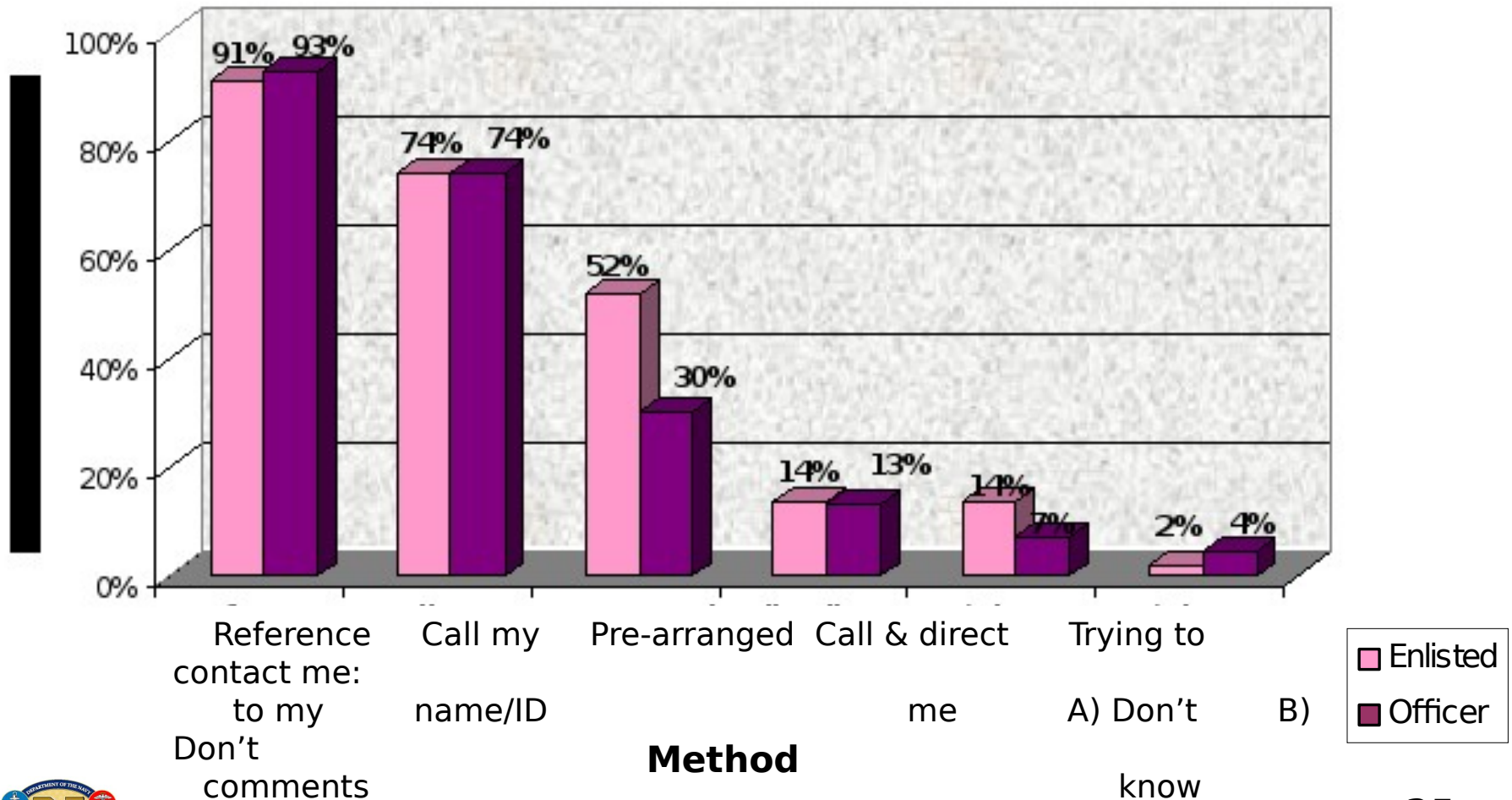




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Methods for gaining awareness of someone attempting to Chat

Comparison: Enlisted - Officer



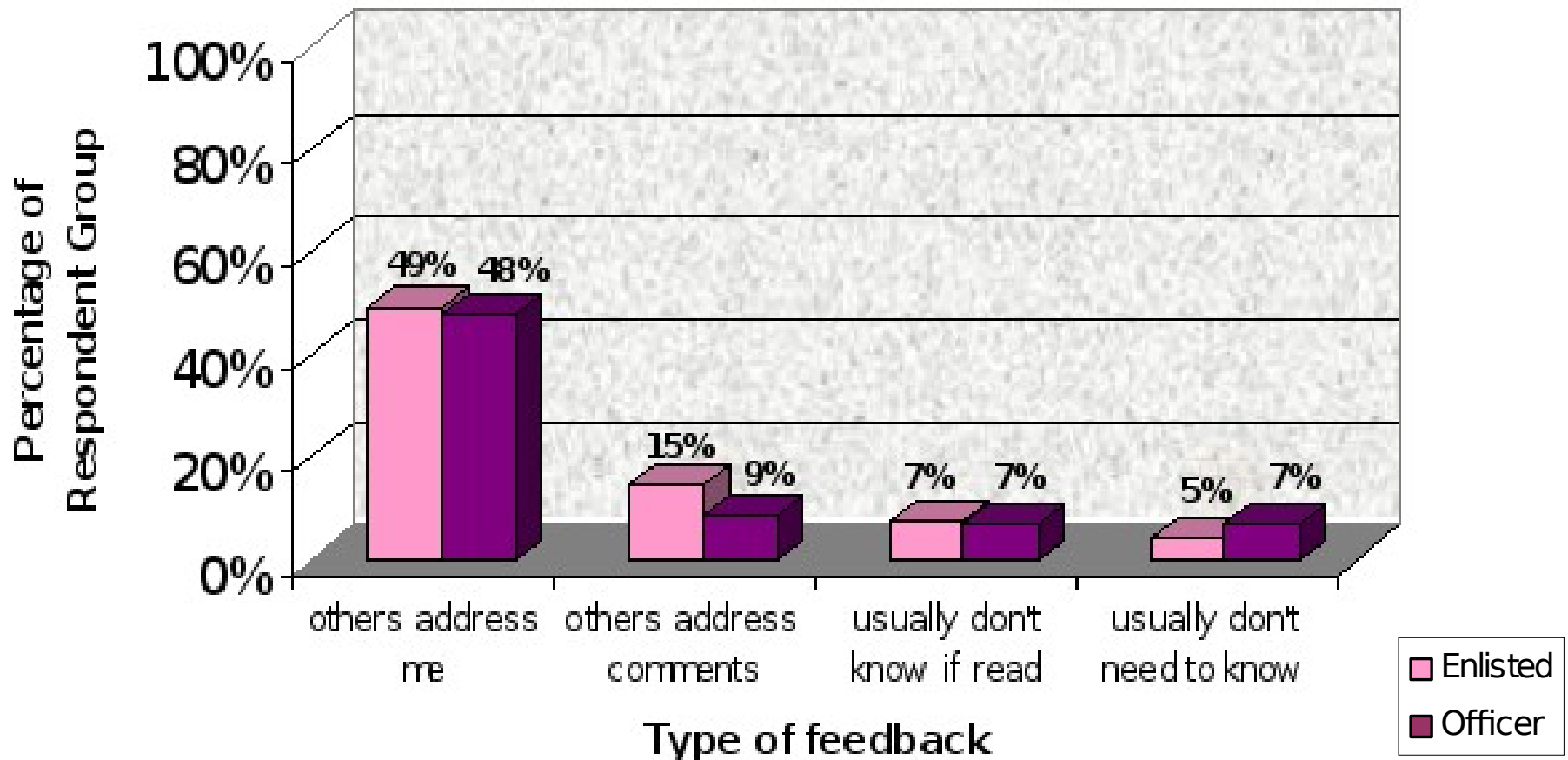
Note: Respondents could choose multiple



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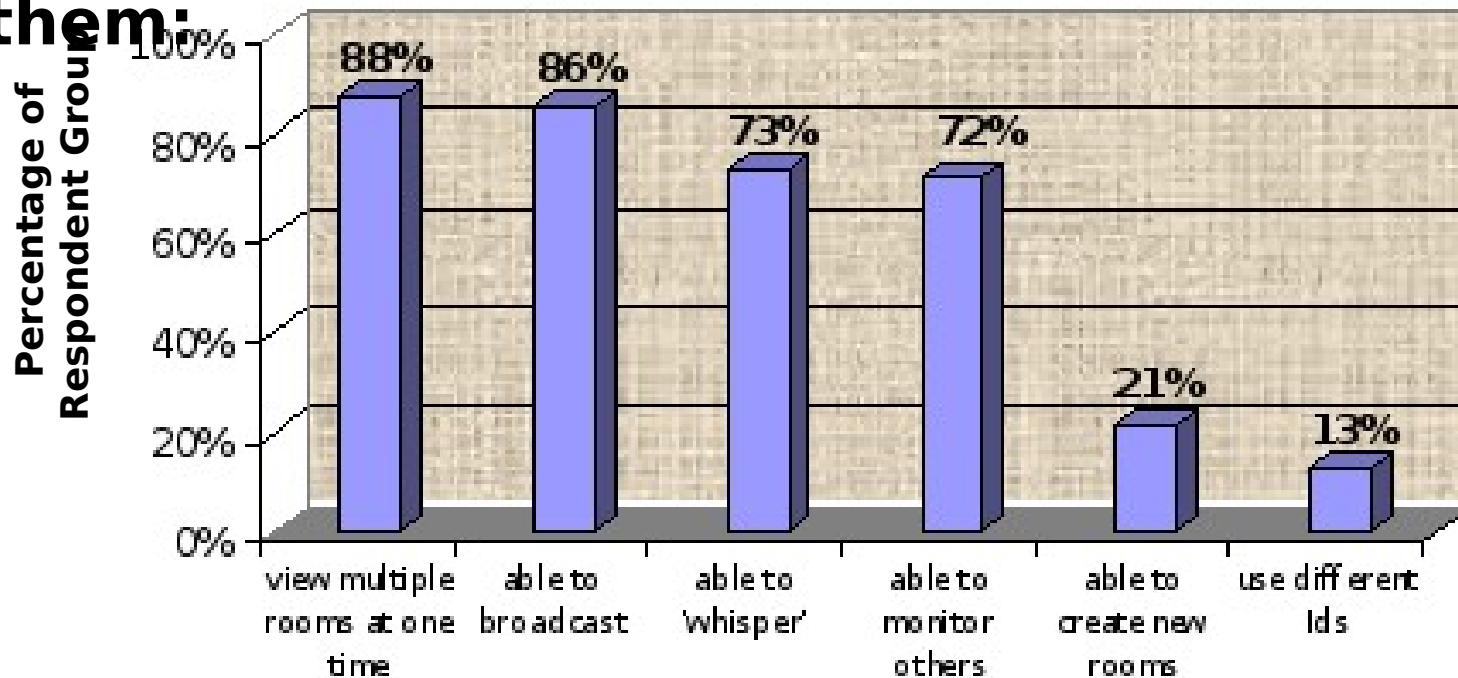
Methods for gaining awareness of someone reading my Text

Comparison: Enlisted - Officer



Important Capabilities

Percentage of respondents who indicated the following capabilities are “Important” to them:



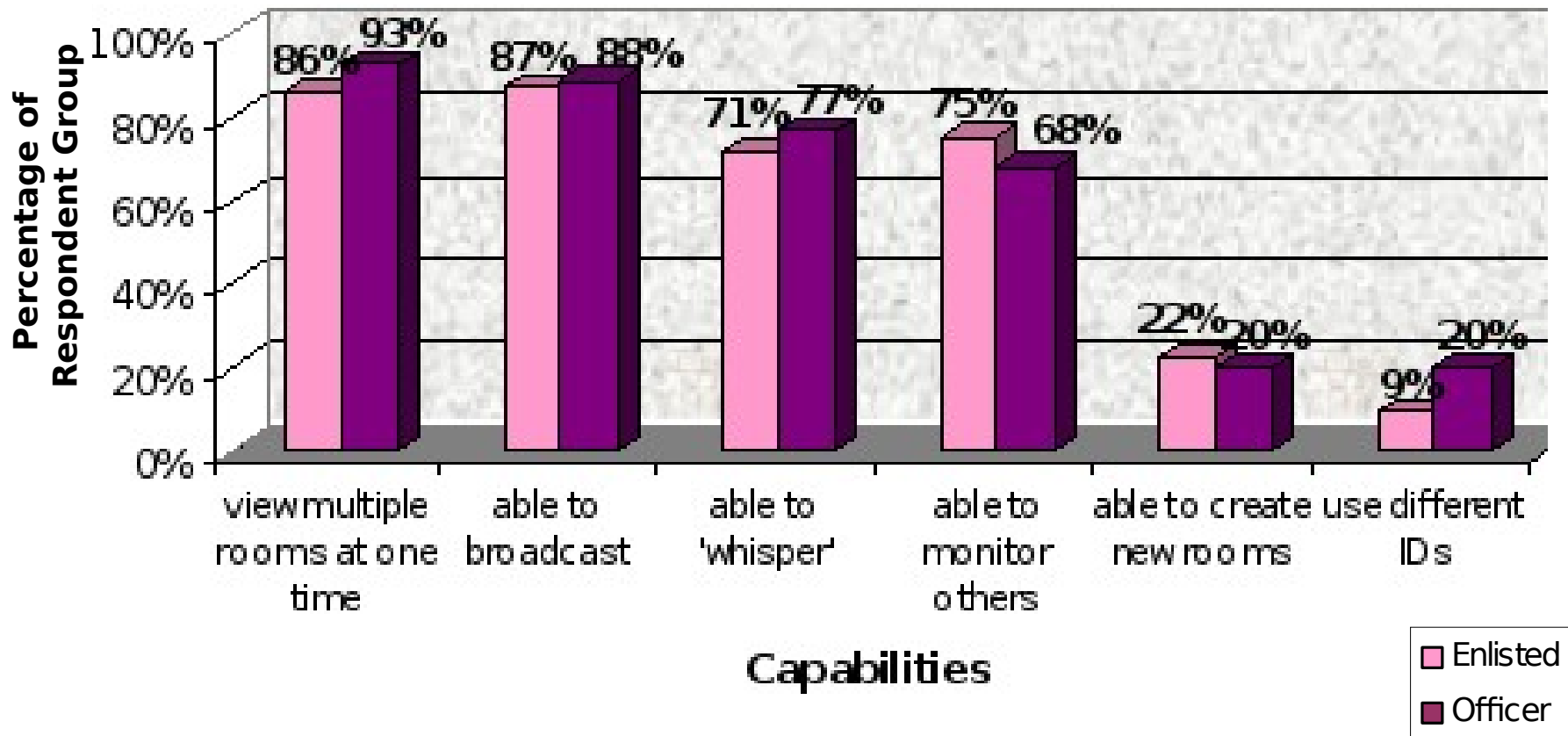
Summed percentages exceed 100% because 91% of respondents rated multiple capabilities as “Important”.



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Important Capabilities

Comparison: Enlisted - Officer



Note: Respondents could choose multiple capabilities

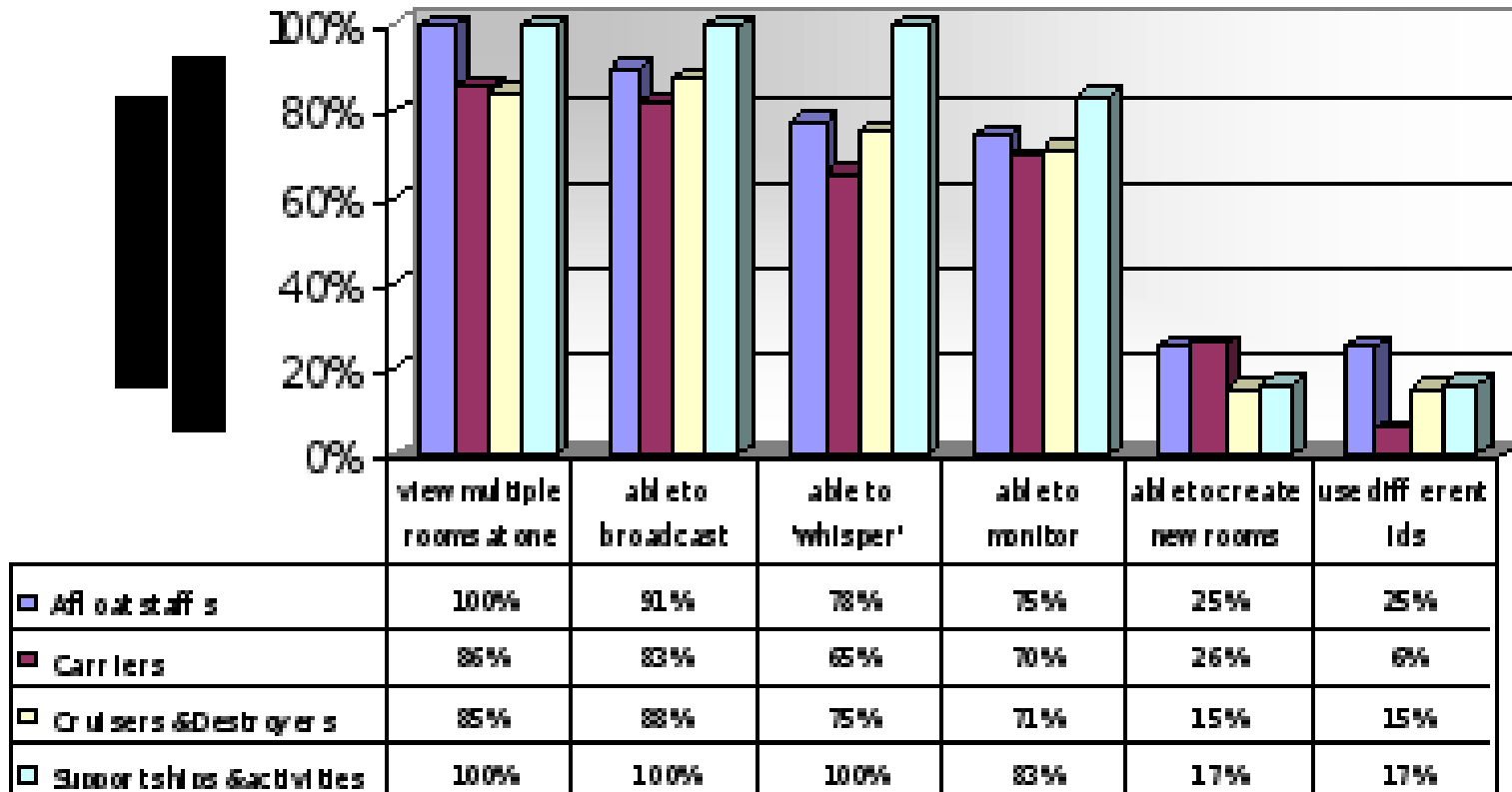
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Important Capabilities

Comparison: Command Groups



Capabilities

Note: Respondents could choose multiple capabilities

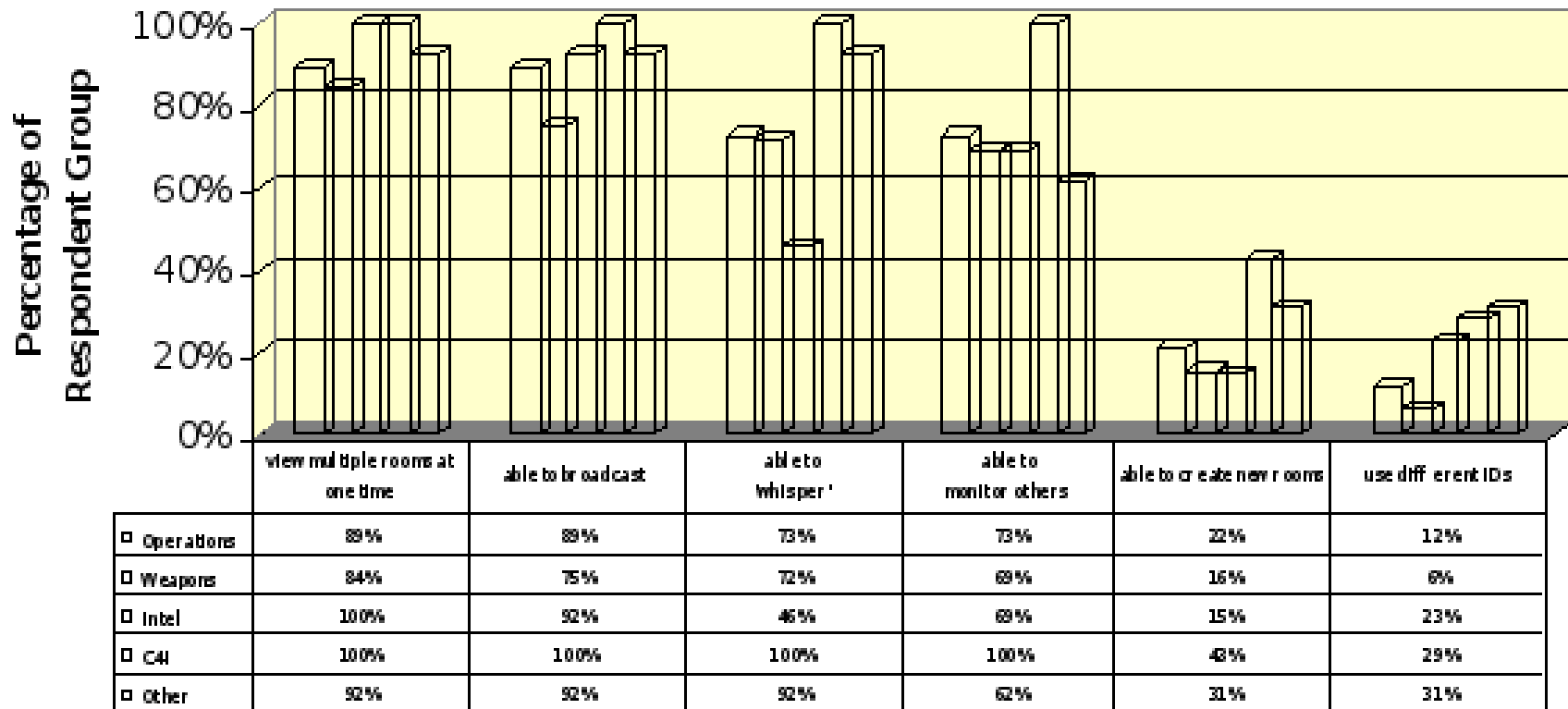
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Important Capabilities

Comparison: Codes/Divisions



Capabilities

Note: Respondents could choose multiple capabilities.

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List your most & least favorite aspects of chat.

Responses by Junior Staff - Senior Staff

Junior Staff:

Most Favorite

Whispering

Ease of use

Ability to reach so many timestamps

Sound alerts tactical

Least Favorite

Connectivity

Lack of business rules

Lack of logs,

Used as primary for

Accidental broadcast

~~Too many rooms~~

Too many people in a

Senior Staff:

room

Ability to reach so many

Real-time connectivity

Heightened SA

Whisper For Official Use Only

Connectivity

Lack of business rules

Abuse of whisper

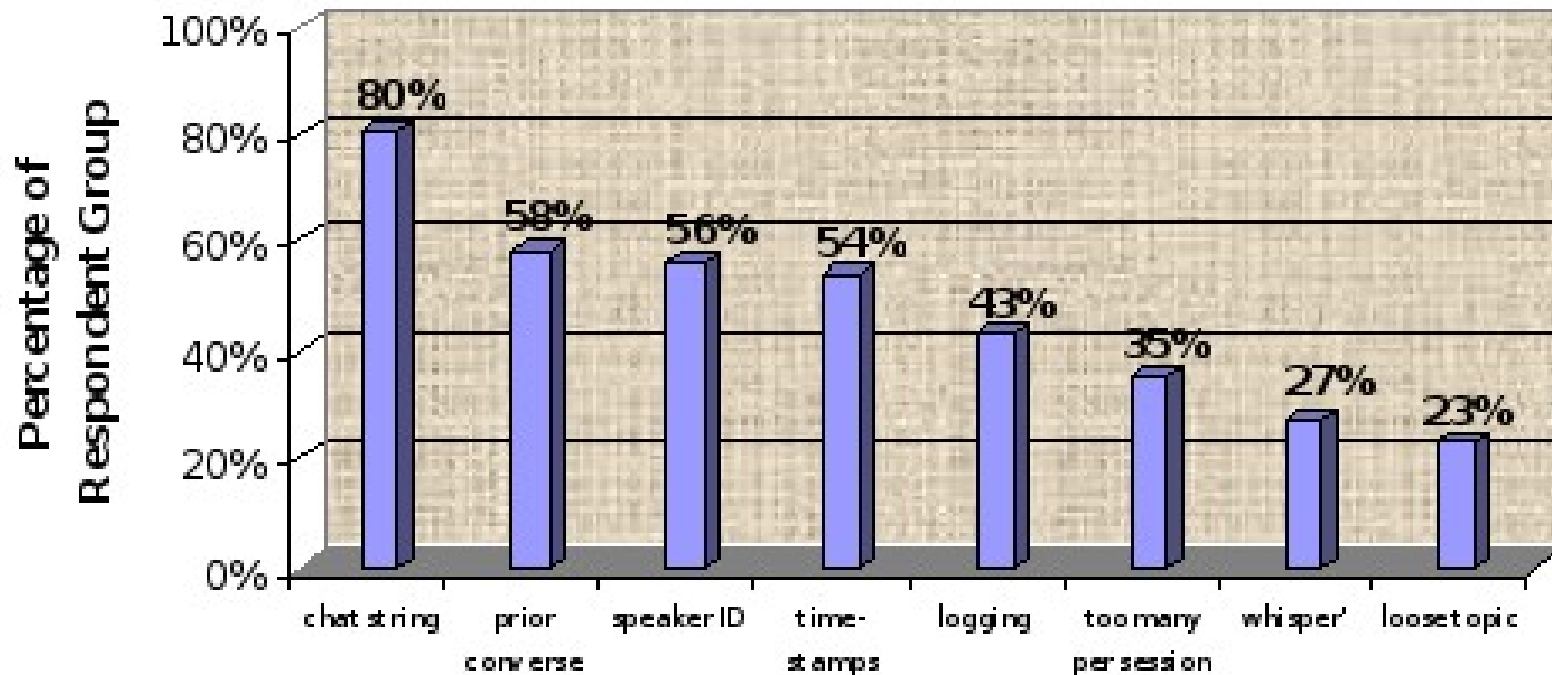
Unnecessary chat



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Chat issues of Concern (1 of 4)

Percentage of respondents who indicated the following issues are problematic:



Summed percentages exceed 100% because 81% of respondents rated multiple issues as problematic.

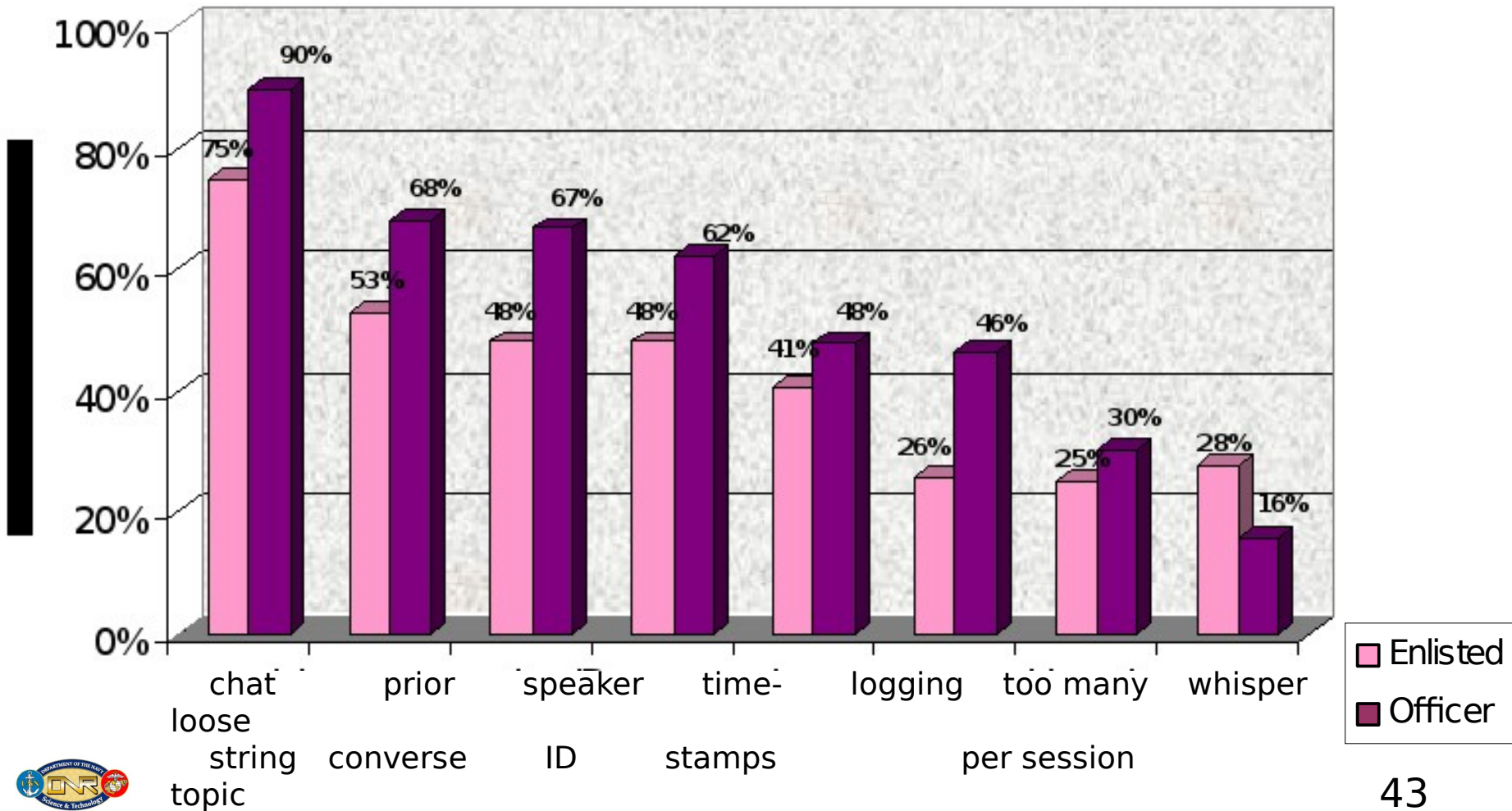


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Chat issues of Concern (2 of 4)



Comparison: Enlisted - Officer

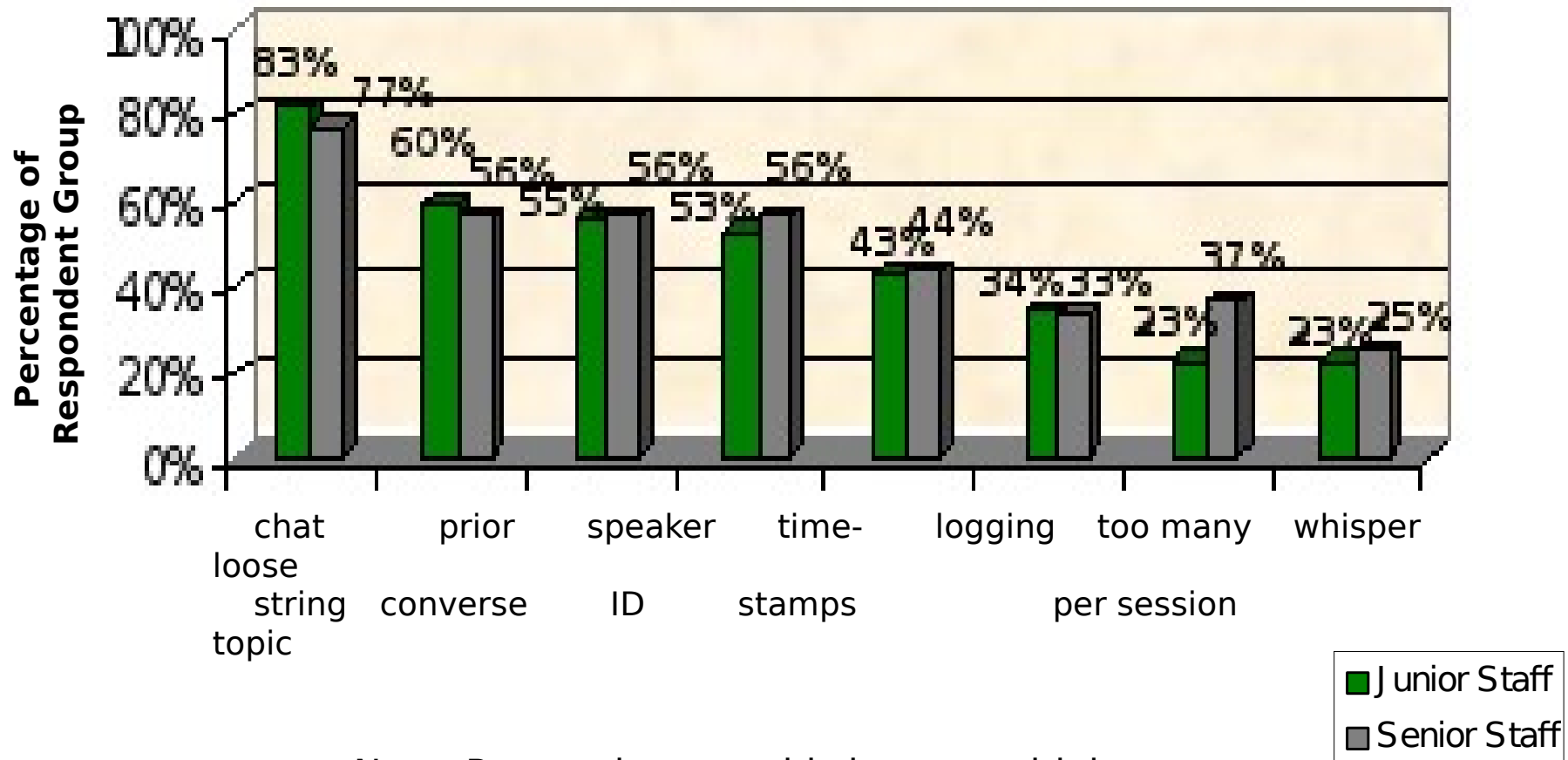




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Chat issues of Concern (3 of 4)

Comparison: Junior Staff - Senior Staff



Note: Respondents could choose multiple issues.

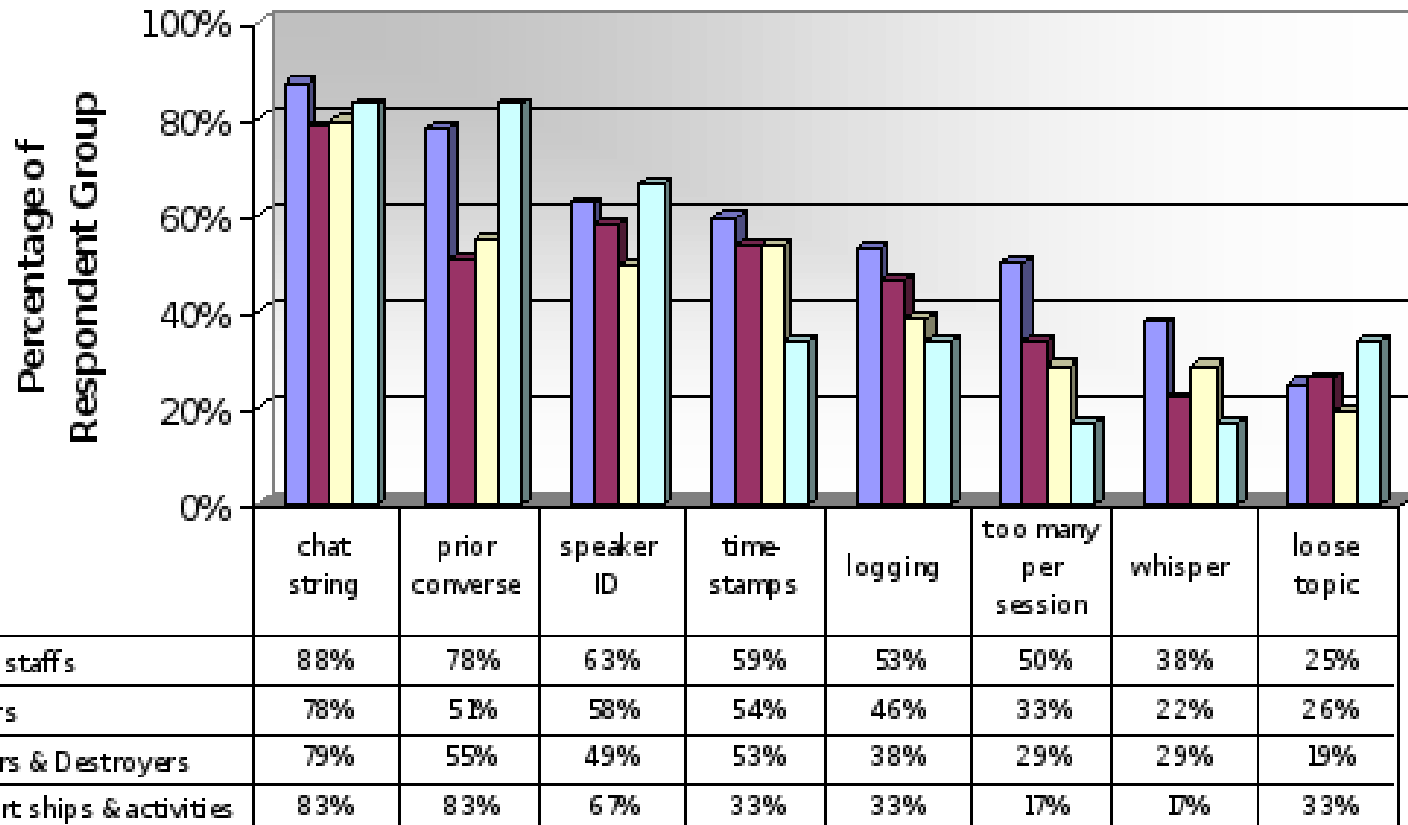
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Chat issues of Concern (4 of 4)

Comparison: Command Groups



Chat issues

Note: Respondents could choose multiple issues.

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Sample comments from Chat Survey

Changed the way of doing business:

- ◆ Chat has quickly replaced voice reporting as the preferred method for passing information.
- ◆ Ability to work near real-time with peers is a tremendous boost to productivity.

Successes during operations:

- ◆ Removed the language barrier normally associated with listening on radio transmission circuit.
- ◆ Scheduling and coordinating with individuals and units at great distances. Indispensable.

Problems during operations:

- ◆ Loss of connectivity. No logging to regain the session.
- ◆ Whispering and forgetting to broadcast to those with a need to know.
- ◆ Orders given over chat.
- ◆ Monitoring multiple chats impacts ability to maintain SA.

How have chat tools changed the way you do business?

Responses by Code/Division

All agreed:

Chat has become the primary form of communication.

- ◆ *The majority reported this in a positive light; however,*
- ◆ *A minority were concerned about too much reliance on chat vs. voice.*

Operations:

- ◆ Use of chat lessens traffic on voice circuits.

Intel:

- ◆ No more missed radio calls.

Weapons:

- ◆ The Navy must choose which way to go--voice or chat.



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How did chat contribute to success / problems in operations? (1 of 2)

Responses by Command Groups

Successes

Problems

Afloat
Staffs:

Ability to reach far-away ships	Connectivity
Ability for real-time coordination orders via	Dissemination of
Reduced noise level on voice	whisper
Better understanding than on voice info)	Lack timestamps (Confusion with time critical
Sharing more types of info. (lessons learned, best practices)	Easy dissemination and lack of authentication of
<u>content</u>	

Carrier
Staffs:

out	Auto (& erroneous) booting
watchstanders	Servers full of non-

Ability for real-time coordination
Troubleshooting comms problems

Connectivity
(too dependent on



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How did chat contribute to success / problems in operations? (2 of 2)

Responses by Command Groups

Successes

Problems

Cruiser/
Destroyer
Staffs:

Ability to reach far-away ships	Connectivity -- too reliant
Ability for real-time coordination	Dissemination of
orders via	
Troubleshooting comms. problems	whisper
Whisper to clarify issues	Confusion over tactical signal
Info sharing for backups, checks	Lack of business
rules	
Can record conversations for	(what, who, how)
later reference	Pass information without
~~thorough~~	
	evaluation (info. glut &
rumors)	

Support
Staffs:

Personal chat

Passing I & W to TAO

Sample suggestions from Respondents

- ◆ Improve our ability to stay connected.
- ◆ Increase our span of access -- other services, Allies.
- ◆ Implement protocol for voice vs. chat. Impossible to keep both up to the degree that we have it now.
- ◆ Give us timestamps, logging capabilities, and auto-save.
- ◆ Develop global user directories.
- ◆ Provide better user identification and indications of log-on and drop-off. Also password-limited access.
- ◆ Provide all users with standard training; don't limit us to on-the-job training.

Sample suggestions from Respondents

Responses by Code/Division

All agreed: Improving connectivity is top priority.

Operations:

- ◆ Provide business rules for administrative control over sessions.
- ◆ Provide logs, timestamps, alerts.
- ◆ For secondary use as tactical tool.

Intel:

- ◆ Need protocol & training.

Weapons:

- ◆ Provide business rules and training.
- ◆ Provide logs, timestamps, alerts.
- ◆ Separate tactical & administrative chat.
 - Need protocol: voice or chat for which, when?

C4I:

- ◆ Provide logs, timestamps, alerts.

Potential Chat Mgmt Solutions

Tools

- User identification authentication
- Automated logging
- Timestamping
- Integration w/ tactical displays
- Visual Aids
 - » Cue user when they are in “whisper” mode
 - » Alert user when specified individuals are in session
 - » Alert user when disconnected

Business Rules

- Comms protocols similar to those applied to radio
- Std. naming conventions for room topic and purpose
 - » (e.g. names that distinguish rough work space from senior-level decision-making and tactical from administrative)

Chat Survey -- On-line Methodology

- ◆ **Developed using Microsoft Front Page application.**
- ◆ **Quickly and easily hosted and implemented.**
- ◆ **Easy access by distributed respondents.**
- ◆ **Automatic feedback of submission to the respondent.**
- ◆ **Responses easily transferred to spreadsheet and database format. Log of response date included.**
- ◆ **High response rate. Recommend this methodology to reach the Fleet.**

Survey Report Timeline

Duration of data collection

- **9 May - 21 May, 2003**
- **CCG-1 will leave survey open indefinitely to allow for additional feedback from the fleet**
- **Survey is in process of being opened to East Coast chat users**

Using May 21 as preliminary cut-off date, an analysis was conducted

Additional analyses may be conducted in the future depending on fleet feedback and project needs



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End

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**For more information on this effort or general
project-related issues, please contact:**



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